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ABSTRACT

The 2001 Environmental Scan for the Colleges of Applied Arts and Technology of Ontario is designed to assist colleges in their strategic planning processes. It provides information about economy and labor, postsecondary education and training, student enrollment, finance, Ontario's population, public policy, and human resources. Strong domestic and international demand, a solid United States market for Canadian exports, and excellent resource commodity prices all contributed to a growth in the Canadian economy. For 2000, the business services industry is expected to grow the fastest of ten listed industries with a projected rate of 7.2%, continuing the trend of previous years. The Greater Toronto Area is leading Ontario's growth fueled by some of the fastest growing industries such as finance, insurance, real estate and construction. They are projected to remain strong in 2000. Colleges continue to tailor their program offerings to address growth areas in the economy and provide graduates with the necessary skills. The 1998 budget announced the Access to Opportunities Program to boost the number of graduates in high-demand fields of engineering and computer science. Overall, full time postsecondary enrollment in Ontario colleges remained relatively similar between 1998-99 and 1999-2000, rising by less than 1% from 138,820 to 139,466 students. Contains figures and charts. (JA)

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September 2000

The 2001Environmental Scan
for
The Colleges of Applied Arts and Technology of Ontari

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INTRODUCTION

The Association of Colleges of Applied Arts and Technology of Ontario (ACAATO) is pleased to present the seventh edition of *The Environmental Scan.*

The challenges faced by colleges as we move into this new century include keeping pace with a technology and knowledge explosion, continuing to meet the myriad needs of an increasingly diverse student body, remaining economically viable and responding to the local community that has become increasingly global in nature. The future will belong to those who can successfully meet these challenges.

The Environmental Scan 2001 is designed to assist colleges in your strategic planning processes. In this scan, we have responded to the suggestions provided about the last scan document and provided more information on future projections and developing trends.

The scan is intended to provide an overview of the environment to facilitate planning, discussion and analysis. It is not an exhaustive or in-depth study but where possible, references have been provided for those who would like to access further information.

To facilitate public access to this valuable resource, the 2001 edition of the scan is available on the ACAATO web site at http://www.acaato.on.ca/research.html.

The Association of Colleges of Applied Arts and Technology of Ontario (ACAATO) has prepared the 2001 Environmental Scan on your behalf and we welcome your feedback on the usefulness of this document in your advocacy and planning activities. A feedback form is also provided on page for your convenience.

Pam Derks
Director, Research and Policy

Kathryn Wycliffe
Senior Research Officer

SECTION 1

ECONOMY AND LABOUR

Canada's Economic Growth
Global Economic Conditions
Ontario's Economic Growth
Canada's Labour Force
Ontario's Labour Force
Emerging Trends
Labour Market Outcomes for College Graduates

ECONOMY AND LABOUR

Given the structural changes occurring in the economy and the rapid transition toward a knowledge-based economy, entering the labour market today requires ever increasing levels of educational attainment. Ontario's colleges of applied arts and technology continue to be well-positioned to provide the educational requirements to maintain the current and future competitiveness of the Ontario and Canadian economies.

The economy and labour market are significant determinants of employment opportunities for graduates of college programs. A college's success is highly dependent upon meeting the needs of local employers both now and in the future. The mix of programs offered by colleges must reflect shifts in the economy and address changes in skill sets required by employers. This chapter will provide an overview of the economy, the labour market both nationally and provincially and finally, it will look at the labour market outcomes for college graduates.

Canada's Economic Growth

Real GDP Growth

The Canadian economy expanded by an estimated 3.8% in 1999, significantly above the 2% rate expected at the beginning of the year, as measured by real Gross Domestic Product (GDP) growth. Strong domestic demand, a strong United States market for Canadian exports and demand elsewhere in the world bolstering resource commodity prices all contributed to the strong growth.

Industry Canada predicts that the economy will grow strongly in 2000 but at a slightly slower projected pace of 3.4% per annum. A slowing to 2.8% in 2001 is also projected.

Longer term projections (2005-2014) identified by a number of private companies level off at about 2.7%.

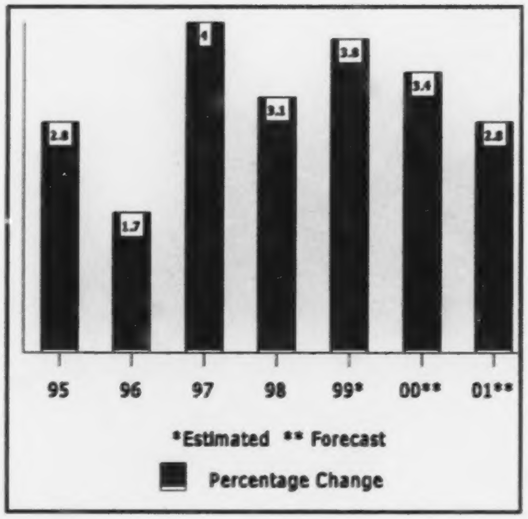

Figure 1.1
Real Canadian GDP Growth

Source: Industry Canada, *Monthly Economic Indicators*, December 1999 and January 2000

Real GDP Growth by Industry

As Figure 1.2 shows, the business services industry is expected to grow the fastest in 2000 at a projected rate of 7.2%, continuing the trend of previous years.

Growth in the mining sector is projected at 6.4%, due to significant increases in crude oil prices.

Activity in other primary industries, agriculture, logging and forestry are expected to increase slightly.

Strong domestic demand as well as continued growth in the United States market for manufactured goods will fuel growth for construction and manufacturing for the second consecutive year.

Education, health & social services and government services are projected to grow at a somewhat slower rate than the rest of the economy.

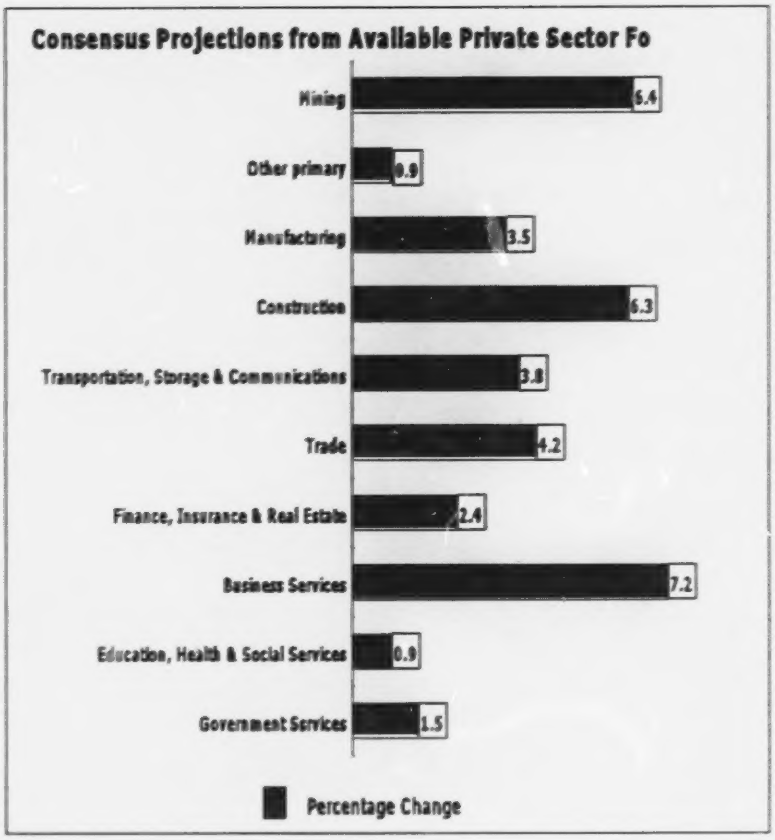

Figure 1.2

Forecast Real GDP Growth by Industry, 2000

Source: Industry Canada, *Monthly Economic Indicator s.* December 1999 and January 2000.

See also Appendix 1.1 *Projected Production Growth by Sector: 2000-2004*, and Appendix 1.2 *Canada's Fastest Growing Companies, 2000,* at the end of the section, for additional information.

Global Economic Conditions

Growth in the U.S. economy is expected to slow to 3.6% (real GDP growth), down from 4% in 1999, due largely to higher interest rates as the U.S. Federal Reserve strives to head off inflation. A further decline in 2001 to 3% is anticipated. Long term projections are for annual increases of about 3%.
Worldwide, the global economy remains strong with all the economies of Asia, except Japan,

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and is expected to rebound to pre-crisis levels. Growth in Eastern Europe and Latin America is accelerating and both areas are projected to rise to an annual pace of 4% during the next five years.

Ontario's Economic Growth

Solid growth in Ontario's economy will continue in 2000 and 2001, resulting in healthy job gains and a falling unemployment rate.

Figure 1.3 Ontario's Economic Growth

Ontario Annual Average	Actual 1997	Actual 1998	Actual 1999	Projected 2000	Projected 2001
Real GDP Growth (%)	4.6	4.3	5.7	4.6	3.1
Employment ('000)	5,413	5,613	5,688	Up to 5,887	Up to 6,064
Unemployment Rate (%)	8.5	7.2	6.3	5.5-6.0	5.0-5.5
CPI Inflation (%)	1.9	0.9	2.5	1.4	2.0

Source: Ontario Ministry of Finance. *2000 Ontario Budget Papers.*

The rise in Ontario's real GDP by 5.7% in 1999 was due to strong consumer spending, new investment and increased imports. Ontario accounted for about 42% of Canada's 1999 GDP.

- Consumer spending was up 4.1%, supported by a 4.5% rise in after-tax income. Consumer confidence reached an 11-year high.
- Business investment in machinery and equipment rose 11.8%, coinciding with a 22.3% jump in corporate profits.
- Exports rose 10.7%, led by the auto sector. Although the U.S accounts for 93.6% of Ontario's exports, exports to Mexico and South Korea rose 48.8% and 38.4% respectively.
- Ontario created a record 198,000 jobs in 1999, compared with 177,000 job increases in 1998 – the best two consecutive years of job creation in Ontario's history.
- As Figure 1.4 on the next page shows, manufacturing is a strongly performing industry, with record production in cars, light trucks and automotive parts, followed by plastic products and fabricated metal products. Production in these areas will remain strong throughout 2000. Other manufacturing sectors performed well in 1999 with the exception of primary metals, a trend anticipated to continue. Over 50% of Ontario's leading growth industries fall within two segments: manufacturing and wholesale trade, both of which are highly dependent on the economic situation in the U.S
- Retail and wholesale trade will grow at rate of about 5% in 2000.
- Other sectors are projected to grow about 3% in 2000.

Regional Growth[1]

- The Greater Toronto Area is leading Ontario's growth fueled by some of the fastest growing industries such as finance, insurance, real estate and construction. They are projected to remain strong in 2000.
- Central Ontario, with the largest proportion of manufacturing, will continue to experience solid growth.
- Eastern Ontario will experience growth in the high tech sector and expansion within the federal government.
- The Southwest and Northern regions of the province grew at a slower rate in 1999 because of the reliance on primary industry. They are anticipated to perform better in 2000 due to manufacturing increases in the Southwest and some recovery in the resource sector, notably nickel, in the North.

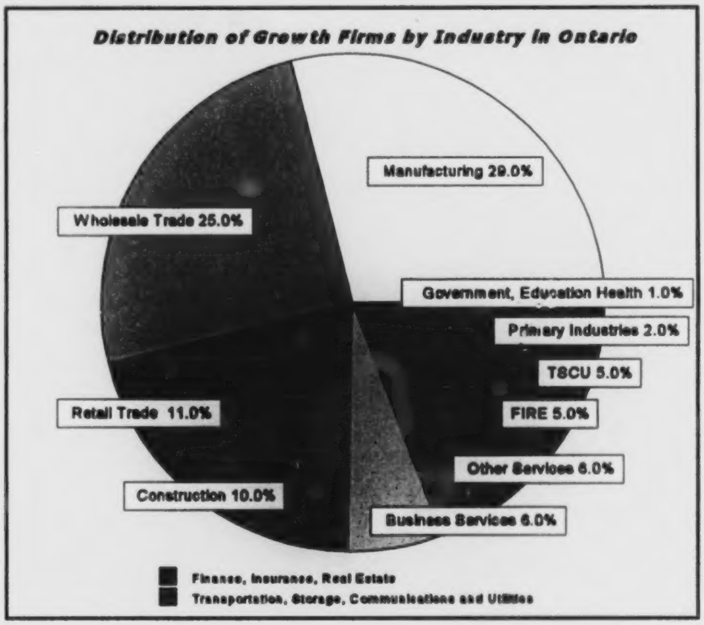

Figure 1.4 Distribution of Growth Firms by Industry in Ontario, 1999

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[1] Industry Canada - Ontario Region. *Ontario Economic Outlook.*

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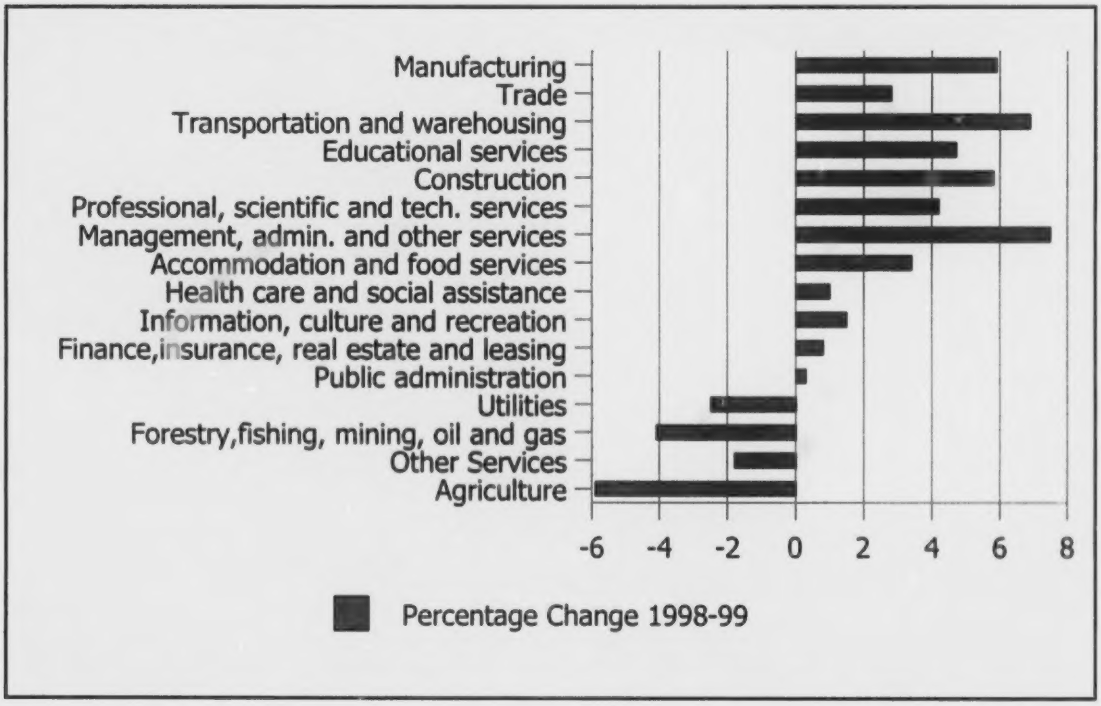
Canada's Labour Force

The strong national economy had a profound impact on employment in 1999 with 427,000 new jobs created – a 3% gain over the year. The biggest gains were in full-time employment, where the increase was 511,000 jobs (4.4%) while part-time jobs declined by 84,000 (3.1%). By December there were 14.7 million people working in Canada, 61% of the working-age population.

The unemployment rate declined in 1999 from 8.1% at the start of the year to 6.8% in December 1999, the lowest rate in 23 years (April 1976)[2].

Other highlights

Figure 1.5 Employment Gains in Canada by Industry 1998-99



Source: Statistics Canada. *Labour Force Update.* Winter 2000.

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[2] Statistics Canada: *Labour Force Update.* Winter 2000

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- The largest gains in employment were in manufacturing, led by the computer and electronics parts sector – a gain of 127,000 jobs or 5.9% over the year.

- The growth in manufacturing also contributed to an increase in the transportation and warehousing industry. There were 50,000 new jobs in 2000 over 1999, an increase of 6.9%, with over three quarters of the increase in truck transportation, where employment rose almost 12%.

- Construction employment increased by 44,000 workers, or 5.8%, due to added activity in non-residential construction as well as an increase in new housing starts.

- The largest industry, wholesale and retail trade, grew by 3.3% or 72,000 jobs, led mostly by wholesalers of motor vehicles, parts and accessories, and industry and machinery suppliers.

- In the education services sector, which includes colleges and universities, 45,000 new jobs were created in 1999, or 4.7% increase. There was no increase in employment in primary and secondary institutions.

- As Canadian businesses continued to upgrade their computer systems, partly in response to Year 2000 concerns, employment in the computer systems design industry led to an increase in the professional, scientific and technical services sector of 36,000 new jobs, up 4.2%.

- Employment also increased in management, administrative and support services by 36,000 new jobs, up 7.5% due to significant growth in telephone call centres, job placement and travel agencies. Compared to 10 years ago, there were 66% more people working in this sector of the economy, second only to professional, scientific and technical services, with a 10-year increase of 68%.

- Part-time jobs at restaurants and fast-food outlets accounted for most of the growth in accommodations and food services industry, where 32,000 new jobs were added, an increase of 3.4%. Accommodation and food services jobs, among the lowest paid, increased 26% over 10 years, double the average for all industries.

- Growth was strongest in the number of full-time jobs, an important sign of economic health.

- Most hiring occurred in the private sector, with an estimated 290,000 new jobs, an increase of 3.2%. The number of self-employed persons increased by 46,000, or 1.9%, indicating a slowing of employment in this area. Public sector employment increased by 91,000 jobs, or 3.4%.

- Employment increases in so many industries meant that there were improvements in employment for men and women in all major age groups with the most significant changes occurring at either end of the age spectrum. Over the last three years, the number of people aged 55 and over who are employed has increased by 20%, faster than any other age group. Youth employment (15-24 years) also grew strongly, rising by 4%. By the end of the year, the proportion of youths employed had increased by more than any other group, up 1.7% to 55.6%.

- Appendix 1.3: *Projected Canadian Employment Growth By Sector: 2000-2003* provides additional information on future employment growth

Ontario's Labour Force

Ontario led all other provinces with an overall gain of 198,000 jobs in 1999. The increase of 225,000 full-time jobs was offset by a decline of 36,000 part-time jobs. The gain of full-time jobs was heavily concentrated among workers 45 years of age and older (+132,000). With significant improvement in the Ontario job market, the overall level of unemployment was down by 49,000 in 1999; the unemployment rate dropped one full percentage point to 6% in January 2000.

As Figure 1.6 on the next page shows, significant job increases were recorded in the following industries: construction, health and social assistance, and professional, scientific and technical services. Employment losses occurred in primary industries, utilities, other services and public administration. Further information is available in Appendix 1.4: *Employment in Ontario by Industry* and Appendix 1.5: *Employment in Ontario by Occupation.* Appendix 1.6: *Projected Growth Occupations* suggests areas for future growth in the Greater Toronto Area but will also be applicable in many areas of the province.

Other tables at the end of the chapter provide further information related to the employment picture in Ontario.

Regional Labour Market

The number of jobs increased in all areas of the province, resulting in drops in the unemployment rate. The lowest unemployment rates occurred in Central Ontario and the highest in Northern Ontario. See Appendix 1.10 *Unemployment Rates in Ontario, by Economic Region.*

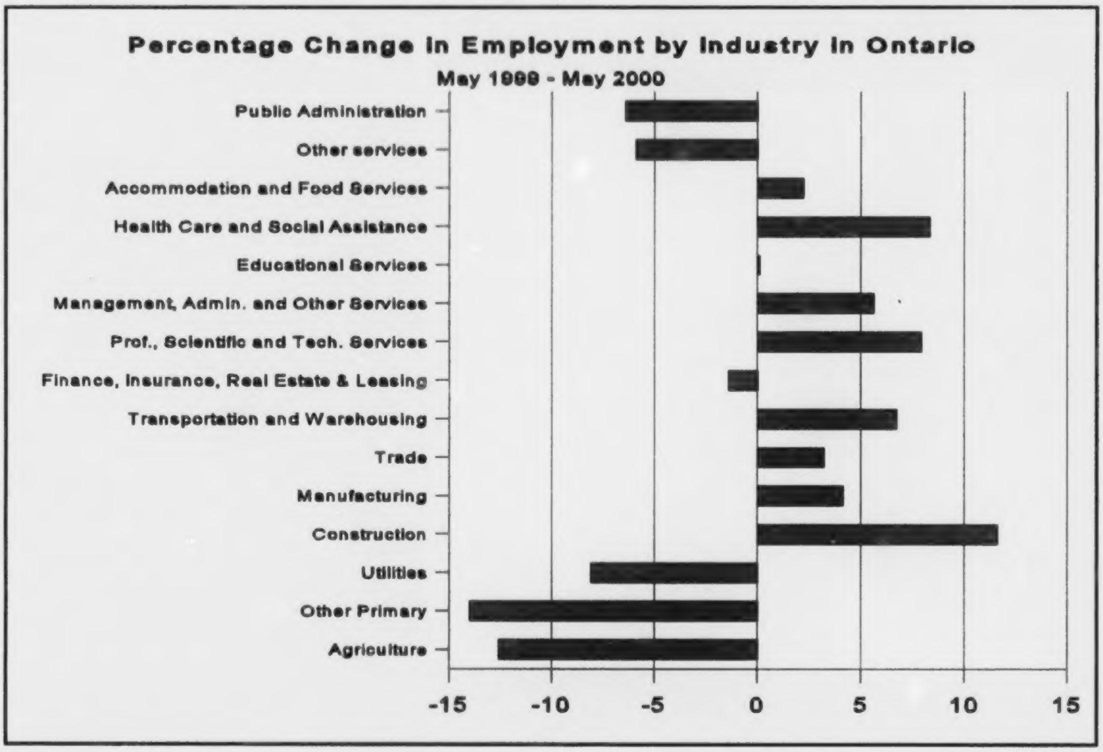

Figure 1.6
Percentage Change in Employment by Industry in Ontario

Source: Human Resources Development Canada. *Summary of Labour Force Statistics-Ontario.* May 2000

Regional labour market information is available electronically from *http://www.on.hrdc-drhc.gc.ca.*

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Emerging Trends

Extended streak of solid growth

The health of the Canadian and Ontario economies is evidenced by the fact that between 1998 and 1999 more than 1.5 million new jobs in Canada were created, most of them full-time. This growth is expected to continue strongly in 2000 and then level off. Companies are hiring again. In the first eight years of the decade, self employment accounted for 70% of all job gains, compared to 14% in the last two. In 1998 and 1999, companies hired 600,000 new people, more than double the number in the previous eight years combined.

Growth of the Internet and e-business

The world is well on the way to becoming *a connected society* – a new global culture and economy of businesses and individuals connected in a high-speed communications fabric that enables digital transmission of voice, data and video to *anyone, anywhere, anytime.* While it will be a long time before *the connected society* reaches every person on the planet; the network is already dramatically changing the way many people live, work and play. Complete transition will take a generation or more but the major changes and foundation-building will occur in the next five years. And although many still-developing nations won't be full participants soon, they will experience significant increases in basic connectivity, which will accelerate the integration of those nations into the electronic world.

The new economy is dramatically changing the way we produce and distribute goods and services, organize companies and workplaces, and indeed the current overall economy. Outsourcing, networks and even "virtual" companies are made possible by information and communications technologies and the Internet.

Traditional relationships between companies and their suppliers, distributors and customers will be impacted, creating many opportunities for new kinds of intermediaries and putting much more power in the hands of customers.[3]

- General Motors Corp., which has traditionally built vehicles and stocked them, now aims at building vehicles to order. This has major implications for suppliers and dealers.

- New kinds of business-to-business models are emerging; examples are aggregators, which brings buyers and sellers together in specific sectors; auction sites which deal with more perishable items and excess inventory; exchanges, where commodities and other tradeables, such as financial products and bandwidths, can be traded; and bidding sites, where a buyer bids on something the company needs.

The new economy means intensified competition and the need to respond to changing circumstances much faster than in the past.

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[3] David Crane. Business Today. *Toronto Star,* Wednesday, June 7, 2000, p.E2

For those selling information, goods and services, the Internet is a channel that broadens their reach well beyond the confines of traditional organizations that operate in the off-line, physical world.

Mobile wireless service will become the standard model of communications. The third generation of voice recognition technology, referred to as conversational computing, allows one to talk to computers to search for information or run applications without the use of a keyboard. Voice recognition will let you do everything you can now do with your PC through your cellphone, including surfing the Web. By 2004, IDC Canada projects that 95% of all digital cell phones in Canada will be Internet enabled.[4]

A period of "hypergrowth" in e-commerce began in the United States in the first quarter of this year and it is expected to run for the next seven years. The same cycle of hypergrowth is predicted to begin in Canada in mid-2001.[5]

A majority of Canadian businesses has embraced the use of technology such as e-mail and the Internet. One out of 10 companies used the Internet in 1999 to sell goods and services, amounting to 0.2% of their total economic activity. Most of this activity was business to business e-commerce. It is in the relationship between businesses that e-commerce will dominate, at least in the next few years. Statistics Canada, in the *Information and Communications Technologies and Electronic Commerce Survey* released in August 2000, reports that the total value of customers orders received over the Internet was $4.4 billion in 1999. The private sector accounted for $4.2 billion of this amount. In the private sector, 14% of businesses and 44% of public sector institutions used the Internet to buy goods and services. Twenty-two per cent of private sector firms had a web site in 1999, compared with 69% of the public sector. Significant increases in e-commerce are predicted.

Media Metrix Inc. of New York, in a survey of web usage in June 2000, identifies Canadians as heavy users of the web. A cumulative total of almost 7.6 million "unique visits" to the Internet were tallied for Canada for its prime time hour of 9 to 10 p.m. It is estimated that this is equivalent to almost 25% of Canada's population; Americans were the next highest users[6], with nearly 43.5 million "unique visits". This represents only about 16% of the American population.

Canada's highly connected population, and early Internet policy initiatives, position it well to be a leader in the Internet economy. Canada already has the highest share of global e-commerce revenues after the U.S. IDC Canada estimates that total e-commerce spending in 2000 will exceed $20 billion growing to about $92 billion by 2003.

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[4] Retrieved from http://www.idc.ca/idcbodyframe.html on June 27, 2000

[5] David Crane. *The Toronto Star*, Wednesday, June 7, 2000, p.E2

[6] John Partridge. *The Globe and Mail.* Wednesday, August 16, 2000

Predominantly, e-commerce companies and establishments are concentrated in Ontario and Quebec.

Personal Internet retailing is anticipated to experience a yearly increase from 62% to 80% each year over the next several years.

Jobs created in the new economy will be high-knowledge positions that require predominantly post-secondary education, including executive managerial staff requiring solid technical knowledge of the Internet and all aspects of e-commerce as well as the good analytical skills to complement the current focus on merchandising; IT professionals who understand networking, client/server systems and how to use the Web to support commerce along with data warehousing; business systems analysts who understand workflow processes and can implement large-scale systems to handle merchandising, overseas sourcing, distribution and customer support. The impact of e-commerce on existing retail jobs is not as clear, although in the medium to long term, cutbacks will probably occur.

Increasing emphasis on lifelong learning

The rapid rate of change in the economy and the growth of knowledge-intensive activities require that individuals need not only a strong basic education, but also the opportunity to upgrade and extend their skills throughout their adult lives. More information will be provided on this subject in Chapter 2, Education.

Essential skills

A number of sources, including the Expert Panel on Skills, in its report to the Advisory Council on Science and Technology, identify the need for workers to be able to communicate effectively, problem solve and work in teams. The Conference Board of Canada has published *Employability Skills 2000+*, outlining the skills that are needed to enter, stay in and progress in the world of work, under three general areas – fundamental skills, personal management skills and teamwork skills. These can be accessed electronically at: *http://www.conferenceboard.ca/nbec.*

Labour Market Outcomes for College Graduates

Each year, the Ministry of Training, Colleges and Universities, publishes the *Employment Profile* of Ontario college graduates, which summarizes the employment experiences of graduates six months after their graduation.

The employment experience of the 1997-98 graduates shows some improvement consistent with the economic upturn that occurred. The availability of increased full-time employment is evident.

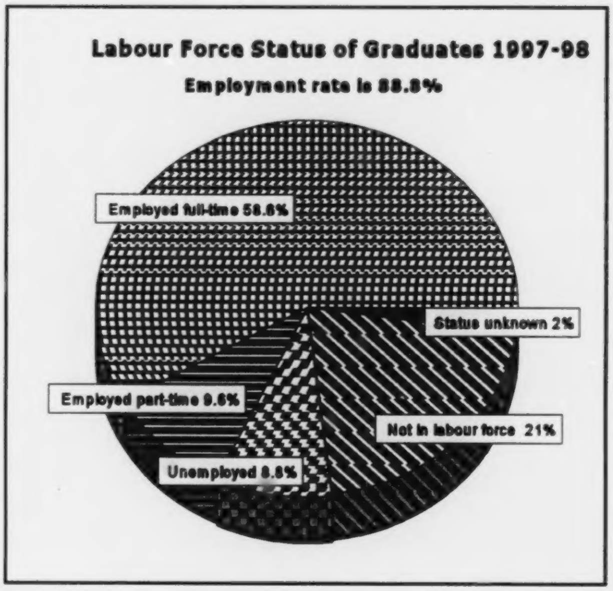

Figure 1.7
Labour Status of Graduates

- 58.6% were employed full-time (graduates who worked one job at least 30 hours per week or where fewer hours were considered full-time in a particular field).
- 9.6% were employed part-time (graduates who worked at one job less than 30 hours per week).
- 2% with status unknown (it was unknown if graduate was employed full-time or part-time).
- 8.8% were unemployed (graduates who were without work, but were looking).
- 21% were not in the labour force (graduates who were not employed and not looking for work, including those attending school full-time, traveling or staying home for health or family responsibilities reasons).

Additional information on graduates is presented in Appendix 1.10: *Labour Force Profile of College Graduate, 1998* and Appendix 1.11: *Average Starting Salaries for Employed College Graduates, selected years.*

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Appendix 1.1

Projected Production Growth by Sector: 2000-2004

(Average annual percentage change in real GDP)

Higher Growth		**Medium Growth**		**Lower Growth**	
Above 3.5%		*2.5%-3.5%*		*Below 2.5%*	
Electrical/Electronic	9.3	Rubber	3.4	Chemicals	2.4
Business Services	6.3	Motor Vehicle Parts	3.2	Utilities	2.4
Communications	6.0	Other Manufacturing	3.1	Construction	2.3
Plastics	4.8	Motor Vehicles	3.0	Refined Petrol.& Coal	2.1
Aircraft & Parts	4.8	Transportation/Storage	2.9	Beverages	2.0
Pipelines	4.2	Oil & Gas	2.9	Wood	2.0
Furniture	4.1	Financial Services	2.9	Health Services	1.7
Wholesale Trade	3.7	Fabricated Metals	2.8	Food	1.6
Paper	3.7	Retail Trade	2.8	Mining	1.5
Other Transport. Equip.	3.7	Hospitality/Recreation	2.7	Agriculture	1.5
		Primary Metals	2.6	Non-Metallic Minerals	1.4
		Personal Services	2.6	Government Services	1.3
		Textiles	2.5	Fishing	1.3
		Machinery	2.5	Printing/Publishing	1.3
				Educational Services	1.0
				Forestry	1.0
				Clothing	-0.1
				Tobacco	-1.4
				Leather	-3.9

Source Bank Of Montreal, Economics Department, *Prospects for Canada's Industries to 2004*, February 2000

Common features in high-production sectors:

- demand is driven by longer-term secular trends and divesting of non-core business and outsourcing, demand is sensitive to customers' income,
- fast-growth industries have invested heavily in recent years and refocused production in areas they have the competitive advantage,
- tend to be developing and introducing new products and services at a fast pace.

Appendix 1.2

CANADA'S FASTEST GROWING COMPANIES 2000

The 12th annual survey by *Profit* magazine ranks the country's Top 100 companies by their growth over the last five years. Again this year, seven of the top 10 companies are in Ontario. The average annual growth rate of this year's *Profit 100* is 4,271%, half again greater than last year's average. Most of these firms sell to other businesses. Demand for better products, more information and greater efficiency is pushing these companies to compete more aggressively, innovate endlessly, and scan the globe for new technologies.

Company	Expertise	Revenue $		Employees	
		1994	1999	1994	199
Boardwalk Equities Inc. Calgary	Residential property manager	408,400	186M	75	1100
Cyngal Technologies Corp. Oshawa, ON	Broadband network developer	142,754	59.9M	6	125
DataMirror Corp. Markham, ON	Data integration software	117,000	42.2M	10	220
TLC Laser Eye Centers Inc.* Mississauga, ON	Laser eye surgery	1.1M	314.5M	20	950
Stake Technologies Ltd.* Norval, ON	Environmental technologies	174,000	47.3M	8	88
The SunBlush Technologies Corp.*Toronto	Produce and flower life-extension technologies	426,000 U.S.	60M U.S.	22	550
Sierra Wireless Inc. Richmond, B.C.	Wireless modems manufacturer	234,009	35.6M	33	102
Genesis Microchip Inc.* Thornhill, ON	Image-processing microchips	524,000	53.3M	52	162
Proprietary Energy Industries Inc.* Calgary	Real estate, oil and gas, mining	355,848	30.2M	1	235
Spin Masters Toys Toronto	Toy designer and marketer	542,224	45.8M	6	46

* Companies were in the top 10 in 1999.

Source: *PROFIT:* The Magazine for Canadian Entrepreneurs, June 2000.

Appendix 1.3

Projected Canadian Employment Growth by Sector: 2000-2004

(*average annual percentage change*)

Higher Growth *Above 1.7%*		**Medium Growth** *0.9%-1.7%*		**Lower Growth** *Below 0.9%*	
Business Services	4.7	Transportation/Storage	1.7	Utilities	0.8
Electrical/Electronic	3.7	Wood	1.7	Textiles	0.7
Motor Vehicle Parts	2.1	Fabricated Metals	1.6	Government Services	0.6
Wholesale Trade	2.0	Chemicals	1.6	Motor Vehicles	0.5
Plastics	1.9	Personal Services	1.3	Health Services	0.5
Construction	1.8	Refined Petrol. & Coal	1.2	Primary Metals	0.4
Aircraft & Parts	1.8	Hospitality/Recreation	1.3	Forestry	0.3
		Beverages	1.2	Non-Metallic Minerals	0.3
		Other Transport. Equip	1.2	Educational Services	0.3
		Paper	1.1	Oil & Gas	0.1
		Food	1.1	Machinery	0.0
		Other Manufacturing	1.1	Pipelines	-0.2
		Furniture	1.0	Clothing	-0.8
		Communications	0.9	Mining	-1.1
		Printing/Publishing	0.9	Tobacco	-2.9
		Financial Services	0.9	Leather	-3.1
		Retail Trade	0.9		
		Rubber	0.9		

Source: Bank Of Montreal, Economics Department, *Prospects for Canada's Industries to 2004*, February 2000

Appendix 1.4

Employment in Ontario, by Industry

(selected years)

Industry	Employment (Thousands)				Proportion of Employment			
	1992	1995	1997	1999	1992	1995	1997	1999
Agriculture and Other Primary Industries	156	152	144	152	3.1%	2.9%	2.7%	2.7%
Manufacturing	843	919	966	1,049	16.9%	17.6%	17.8%	18.4%
Construction	268	263	285	300	5.4%	5.0%	5.3%	5.3%
Utilities	59	49	48	50	1.2%	0.9%	0.9%	0.8%
Trade	786	789	832	850	15.7%	15.1%	15.4%	14.9%
Transportation and Warehousing	222	244	259	260	4.4%	4.7%	4.8%	4.6%
Finance, Insurance, Real Estate and Leasing	372	379	373	384	7.4%	7.2%	6.9%	6.8%
Service	1,978	2,145	2,223	2,358	39.6%	41.0%	41.1%	41.5%
Public Administration	317	291	285	253	6.3%	5.6%	5.3%	4.5%
TOTAL *:	**5,001**	**5,231**	**5,413**	**5,688**	**100.0%**	**100.0%**	**100.0%**	**99.5%**

*** Totals may not add due to rounding.**

The classification system to provide industry estimates has changed. Starting January 1999, the North American Industrial Classification System (NAICS)is being used and is very different from the previous system. The data in this table has been adjusted and is comparable from year to year but is not comparable to previous ACAATO environmental scans.

Source: Statistics Canada. *Historical Labour Force Statistics 1999.* March 2000 CD ROM Format

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Appendix 1.5

Employment in Ontario, by Occupation

selected years

Occupation	Employment (Thousands)					Proportion of Employment				
	1992	1995	1997	1998	1999	1992	1995	1997	1998	1999
Management	580	635	628	629	565	10.3%	11.1%	10.6%	10.3%	9.4%
Business, Finance and Administrative	1,075	1,041	1,009	1,047	1,087	19.2%	18.2%	17.1%	17.3%	19.2%
Natural and Applied Science	268	291	312	345	400	4.8%	5.1%	5.3%	5.7%	7.2%
Sales and Service	1,325	1,350	1,418	1,451	1,424	23.6%	23.6%	24.0%	24.0%	24.0%
Primary Occupations	161	154	159	156	165	2.9%	2.7%	2.7%	2.6%	2.2%
Health	253	258	269	272	275	4.5%	4.5%	4.5%	4.5%	5.0%
Art, Culture, Recreation and Sport	142	153	157	166	175	2.5%	2.7%	2.7%	2.7%	2.5%
Social Science, Education and Government Service	355	350	357	372	398	6.3%	6.1%	6.0%	6.2%	7.0%
Trades, Transport and Equipment Operators	794	797	836	850	834	14.2%	13.9%	14.1%	14.1%	13.9%
Processing, Manufacturing and Utilities	474	505	564	591	603	8.4%	8.8%	9.5%	9.8%	8.4%
Unclassified	119	197	207	170	144	2.1%	3.4%	3.5%	2.8%	2.0%
TOTAL:*	**5,610**	**5,732**	**5,914**	**6,049**	**6,071**	**100.0 %**	**100.0 %**	**100.0 %**	**100.0 %**	**100.0 %**

***Totals may not add due to rounding**

The classification to provide occupation estimates has changed as of January 1999 when Standard Occupational Classification of 1991 (SOC91) began and is very different from the previous system. The data in this table is comparable from year to year but not comparable to previous ACAATO environmental scans

Source: Statistics Canada. *Labour Force Historical Review* 1999. March 2000 CD ROM Format

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Appendix 1.6

Projected Growth Occupations

The upbeat economic news for both the nation and the province of Ontario has meant an upbeat job market. It has been especially encouraging for those looking for work or planning careers. Although the following projections have been taken primarily from a report that targets the Greater Toronto Area, the same trends are affecting the rest of the province and Canada.

1) Business Services

The knowledge-driven business services sector is one of Toronto's best job growth areas. Outsourcing of business functions such as accounting, advertising and legal services, as well as demand from those who are self-employed, create demand for business services in the following occupations:

Human resource consultants, personnel officers and recruitment officers
Advertising, public relations and marketing consultants
Consulting engineers in the fields of mechanical, civil, electrical, chemical and computing engineering
Accountants
Computer consultants
Architects and interior designers
Lawyers, paralegals and law clerks
Training consultants
Security personnel and prvt. investigators

2) Computer Industry

The Internet, which has matured into a true business tool, will continue to grow particularly in the area of e-commerce. The Canadian Advanced Technology Association estimates that Ontario alone will have openings for over 56,000 new technology workers over the next five years. Post-secondary institutions are not currently poised to meet this need. Occupations where demand will occur include:

Software programmers and designers, particulary with focus on embedded systems, e-commerce and telecommunications software.
Systems analysts
LAN administrators
Technical support specialists
Technical sales personnel
Internet specialists
Computer engineers
Database administrators and analysts
Software trainers
Electronic technologists and technicians
Network security specialists

3) Construction

A boom in new housing and construction projects accompanied by the aging of the existing work force has created a demand for skilled workers in the following occupations:

Welders
Cement masons
Iron workers
Floor covering installers
Bricklayers and stone masons
Landscape labourers
Drywallers
Sprinkling system installers
Insulators
Electricians

- Plumbers
- Tile setters
- Basement builders
- Painters/decorators
- Carpenters

4. Education

By 2008, half of Ontario's current teachers will be retired. Increased demand for post-secondary education along with the double cohort will also create employment opportunities at all levels of education.

5. Film and Video

A low Canadian dollar and a ready supply of experienced creative and technical workers have earned Toronto an international reputation as a film-making capital. This is expected to continue creating demand for:

- Computer animators
- Film and video camera operators/audio visual recording technicians
- Video technical assistants/freelance video technicians assistants
- Lighting technicians
- Graphic arts technicians and designers
- Other technical occupations in motion pictures, broadcasting and performing arts

6. Finance, Insurance, Real Estate and Leasing

Financial transactions are shifting to electronic services and an increasing proportion of hiring will occur at higher skill and education levels as people are required to fill more knowledge-intensive roles. An active housing and commercial buildings market and demand for financial services from baby boomers is anticipated to create demand for:

- Information Technology Occupations
- Financial Planners
- Mutual funds sales representatives
- Financial and investment analysts
- Securities agents and stock brokers
- Real estate salespersons

7. Health Care and Medical Products

The aging baby boom population will make increasingly greater demands upon the health care system. Some occupations that will grow in demand over the next few years are:

- Physicians - in the areas of family practice, radiology, emergency care and oncology
- Nurses - especially those with specialized training and experience
- Midwives
- Physiotherapists
- Pharmacists
- Dental assistants
- Massage therapists
- Radiation therapists
- Chiropractors
- Natural health practitioners
- Sales representatives - pharmaceuticals
- Researchers - pharmaceuticals and biotechnology

8. Transportation and Warehousing

This is an emerging area of growth in the economy with good job prospects including:

- Managers
- Information technology consultants, software developers and system analysts

Business analysts
Sales representatives
Customer service representatives
Truck drivers
Shippers/receivers, dispatchers, purchasing and inventory clerks

9. Manufacturing

Manufacturing employs more people than any other sector in the GTA. An aging workforce and U.S. demands for manufactured products should create openings for a range of occupations. Highest employment growth will likely be in electrical and electronic manufacturing. Growing demand will occur for:

Manufacturing managers
Mechanical engineers and tooling designers
Mechanical engineering technologists and technicians
Electrical and electronics engineers
Electrical, electronics and control systems technologists and technicians
Industrial and manufacturing engineers
Industrial and manufacturing technologists and technicians
Technical sales representatives
Machinists
Tool and die makers
Metal mould makers
Industrial electricians
Industrial maintenance mechanics/millwrights
Motor vehicle assemblers and electronics assemblers
Production workers

9. Personal services

The aging baby boom generation is seeking out activities and services to help them look younger, live healthier lifestyles and care for their homes, property and pets while they travel. Some of the occupations that will grow include:

Fitness instructor/leader
Home helpers, organizers and personal support workers
Early childhood educators/assistants
Caretakers and house sitters
Esthetician
Hairstylists and barbers
Employment counselors
Funeral directors

10. Telecommunications

The information communications technologies industry is the fastest growing sector in the Canadian economy. It is predicted that half of all Canadians will be using wireless phones by 2003. Skill levels of occupation are high and usually require post-secondary and graduate education. Occupations that will continue in high demand include:

Telecommunications installers and repairers
Technical writers
Wireless communications engineers
Sales and marketing specialists

11. Other occupational groups

Career opportunities are expanding in Toronto in the tourism and hospitality industry as Toronto develops a high profile as a tourist destination. Opportunities are constantly growing in entry level, supervisory and management positions. Management positions will grow in all sectors of the economy as the baby boom generation retires. Smaller organizations, in particular, will require managerial level staff in the next few years.

There are thousands of call centres in Ontario due to the highly-skilled, multilingual labour force available. Growth in call centres is expected to occur in banks and financial institutions; technical support services for software, hardware and multimedia companies; manufacturing and distribution companies; and customer loyalty and reward programs. Occupations growing in demand include telephone call centre service representatives, supervisors and managers and technical support personnel.

Source: Human Resources Development Canada. *Occupational Trends in the Greater Toronto Area*. January 2000. Full text available at: *www.torontojobtrends.org*.

Appendix 1.7

Unemployment Rates in Ontario by Economic Region, selected years

Economic Region	1992	1995	1997	1999
Ottawa	8.4	8.7	9.2	6.7
Kingston-Pembroke	10.7	9.9	11.5	7.5
Muskoka - Kawarthas	12.0	10.8	10.0	6.9
Greater Toronto Area	11.4	9.6	8.1	6.1
Kitchener - Waterloo - Barrie	10.1	8.6	7.6	5.4
Hamilton - Niagara Peninsula	11.5	8.3	8.3	5.9
London	8.9	7.9	7.9	6.4
Windsor - Sarnia	11.1	8.8	8.8	6.3
Stratford - Bruce Peninsula	8.4	6.5	6.5	3.8
Northeast	13.9	10.6	10.8	9.9
Northwest	9.9	8.6	9.7	7.0
Province wide	**10.9**	**9.7**	**8.5**	**6.3**

Notes:

1. **Ottawa:** includes the counties of Stormont Dundas and Glengarry, Prescott and Russell, Leeds and Grenville and Lanark, as well as the Ottawa-Carleton RegionalMunicipality.
2. **Kingston - Pembroke:** includes the counties of Frontenac, Lennox and Addington, Hastings, Prince Edward, and Renfrew.
3. **Muskoka - Kawarthas:** includes the counties of Northumberland, Peterborough, Victoria, and Haliburton, as well as the Muskoka District Municipality.
4. **Greater Toronto Area:** includes the municipalities of Durham Region, York Region, Metropolitan Toronto, Peel Region, and Halton Region (excluding the city of Burlington).
5. **Kitchener - Waterloo:** includes the counties of Dufferin, Wellington, and Simcoe as well as the Waterloo Regional Municipality.
6. **Hamilton - Niagara Peninsula:** includes the city of Burlington, Brant County and the municipalities of Hamilton-Wentworth, Niagara Region, and Haldimand-Norfolk Region.
7. **London:** includes the counties of Elgin, Oxford, and Middlesex.
8. **Windsor - Sarnia:** includes the counties of Kent, Essex, and Lambton.
9. **Stratford - Bruce Peninsula:** includes the counties of Perth, Huron, Bruce, and Grey.
10. **Northeast:** includes the districts of Nipissing, Parry Sound, Manitoulin, Sudbury, Timiskaming, Cochrane, and Algoma, as well as Regional Municipality of Sudbury.
11. **Northwest:** includes the districts of Thunder Bay, Rainy River, and Kenora.

Source: Statistics Canada. *Labour Force Historical Review 1999*. March 2000 CD ROM Format

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Appendix 1.8

Employment in Ontario by Employment Status and Age Group

Selected years (in thousands)

	1992	1995	1997	1999
Full-time:	**4,075**	**4,264**	**4,381**	**4,664**
15 - 24	445	389	382	446
25 - 44	2,424	2,545	2,596	2,666
45 +	1,206	1,320	1,403	1,551
Part-time:	**926**	**968**	**1,032**	**1,024**
15 - 24	376	392	390	398
25 - 44	330	352	374	356
45 +	220	234	268	269
TOTAL *	**5,001**	**5,161**	**5,413**	**5,688**

* Totals may not add due to rounding

Notes: For those aged 45 and older, full-time employment grew at rates faster than those for younger workers indicating a continued trend towards the economy's growing need for workers with skills and experience. Youth employment grew again in 1999 for the second year to above 1992 levels. It also showed the only increase in part-time employment which was down overall, a reversal of the earlier trend.

Source: Statistics Canada. *Labour Force Historical Review 1999.* March 2000 CD ROM Format

Appendix 1.9

Employment in Ontario by Class of Worker

Selected years (in thousands)

	1992	1995	1997	1998	1999
Private Sector Employees	3,300	3,538	3,587	3,779	3,836
Public sector	1,021	958	912	922	957
Self-employed	663	732	889	912	896
• *incorporated*	229	230	290	272	284
• *unincorporated*	435	490	599	619	596
Unpaid Family workers	17	15	25	21	17
TOTAL *	**5,001**	**5,231**	**5,413**	**5,613**	**5,688**

* Totals may not add due to rounding

Note:

The public sector had the highest percentage of employment growth in 1999 at 3.8%, followed by the public sector with a 1.5% increase. Self-employment levels fell as did unpaid family work.

Source: Statistics Canada. *Labour Force Historical Review 1999*. March 2000 CD ROM Format

Appendix 1.10

Ontario Labour Force Participation Rates

Selected years

By Educational Attainment:

	1992	1995	1997	1999
0 to 8 years	34.8%	28.0%	26.7%	25.1%
Some Secondary Education	57.2%	52.4%	51.4%	52.2%
Graduated from High School	71.4%	68.9%	70.0%	70.4%
Some post-secondary	73.1%	71.3%	71.2%	70.6%
Post-secondary certificate/diploma	79.1%	77.2%	76.8%	77.1%
University Degree	84.1%	83.8%	82.3%	82.5%

Source: Statistics Canada. *Labour Force Historical Review 1999.* March 2000 ;D ROM Format

Appendix 1.11

Labour Force Profile of College Graduates, 1998

	Social Services	**Media**	**Hospitality Management**	**Business Management**	**Health Technology**	**Nursing & Related**	**Technology**
In the Labour Force:							
...Employed Full-time	62.0	76.0	81.0	75.0	67.0	58.0	81.9
...Employed Part-time	23.0	13.0	11.0	12.0	26.0	33.0	3.9
...Looking for Work	11.5	9.6	6.4	10.8	6.7	7.2	12.9
*Not in the Labour Force:**	25.0	15.3	14.4	19.0	16.7	15.3	21.7

Notes:

Percentages are expressed in proportion to the total number of graduates in the labour force unless otherwise noted.

"Full-time" includes full-time related, partially related, and unrelated."Part-time" includes part-time related, partially related, and unrelated.

The programs included above have changed from earlier editions of this chart as ministry format has changed with 1997-98 publication.

Source: Ontario Ministry of Training, Colleges and Universities. Employment Profile: 1997-98 Graduates of Ontario Colleges of Applied Arts and Technology. 2000

Appendix 1.12

Average Starting Salaries for Employed College Graduates, selected years

Program Area	1990	1993	1996	1998
Social Services	$24,762	$24,922	$22,796	$26,332
Media	19,835	21,489	24,627	27,004
Hospitality Management	18,822	17,482	18,075	20,228
Business Management	21,205	22,089	23,417	25,465
Health Technology	27,988	27,779	27,435	30,165
Nursing & Related	31,047	28,222	28,558	30,231
Technology	24,845	25,269	27,828	29,981
TOTAL	**$23,875**	**$23,220**	**$24,489**	**$25,489**

Notes:

Average annual salary in a full-time related job

The programs included above have changed from earlier editions of this chart as ministry format has changed with 1997-98 publication.

After flat-lined salaries through the early nineties for new graduates, modest gains in the average starting salaries were recorded in 1996 and have continued through 1997 and 1998. This is most likely reflective of the stronger provincial economy.

Source: Ontario Ministry of Training, Colleges and Universities. Employment Profile: 1997-98 Graduates of Ontario Colleges of Applied Arts and Technology. 2000

SECTION 2

EDUCATION AND TRAINING

Post-Secondary Education
Elementary/Secondary
Participation in Formal Education
Job-Related Adult Education and Training
Online Learning

EDUCATION AND TRAINING

Much of Canada's social and economic success in the latter half of the 20th century has been due to an accessible primary, secondary and post-secondary public education system. As the 21st century proceeds, it will be a challenge to ensure that all Canadians have access to the lifelong learning opportunities necessary to maintain this success.

> *In a knowledge-based, global economy, countries with the capacity to anticipate and respond quickly to changing demands for skills are likely to prosper. We need to be as concerned about the learning market and the learning system as we are about the labour market, because we need the right skills to continuously drive enterprise and maintain our standard of living.*[1]

The Colleges of Applied Arts and Technology of Ontario have contributed to the economic and social development of Ontario for more than 30 years, providing accessible, quality career education and training to thousands of adults each year. Colleges prepare job-ready graduates for Ontario's labour market and deliver proven return on public education investment.

This section will provide an overview of the education and training sector with particular emphasis on post-secondary education and training.

Post-Secondary

Ontario's colleges of applied arts and technology have a presence in over 200 Ontario communities and 74 countries around the world, providing skills and knowledge that effectively prepare graduates to participate in the rapidly changing and globalized workplace. Large and small businesses look to the colleges for rapid response to their training needs to upgrade workers' skills and to allow businesses to compete effectively in the global market.

The *Report of the Expert Panel on Skills* to the Advisory Council on Science and Technology identifies that, on the whole, Canada's education and training providers and immigration appear to be keeping pace with the demands of Canadian employers for technically skilled people. In some sectors, due to rapid growth or the requirement for extremely specialized skills, some firms may find it difficult to fill positions with fully qualified people. High levels of retirements due to the aging population of skilled tradespeople will heavily strain the education system over the next decade. The Conference Board of Canada, in *Performance and Potential, 1999,* also identifies that Canada is doing a good job of developing higher level skills through post-secondary education and training.

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[1] Advisory Council on Science and Technology. *Stepping Up-Skills and Opportunities in the Knowledge Economy, Report of the Expert Panel on Skills.* Ottawa, Industry Canada, 2000.

The *Skills Report* does caution that **economic, technological and scientific change, combined with an aging workforce, and intensifying global competition for skilled people, will soon strain our skills development system to the limit**

Addressing Labour Market Requirements

Colleges continue to tailor their program offerings to address growth areas in the economy and provide graduates with the necessary skills.

The 1998 Budget announced the *Access to Opportunities Program* (ATOP) to boost the number of graduates in high-demand fields of engineering and computer science. The Ontario Government is providing funding of $228 million in the first three years of the program with an additional estimated $136 million coming from the private sector to increase enrolment by approximately 23,000 students. All 17 universities and 25 colleges have responded enthusiastically to the program.

- College enrolment is expected to increase by more than 50 percent in computer engineering technician and technology, electronic engineering technician and technology, computer systems technician and technology, and computer programmer programs.
- In 1998-99, opportunities were created for about 7,000 additional students.
- This growth is expected to double in 1999-2000.
- Typical examples of initiatives are:
  - in the Ottawa area, the two colleges and two universities formed a consortium with the regional government and together have raised $55 million in pledges from organizations in that region.
  - IBM and Georgian College announced a 40-seat workstation with an AS/400 mid-frame computer.

To meet the growth in the information technology area, the following new programs have been approved for delivery since September 1998 to increase the capacity within the system:

- Computer Programmer Analyst at Humber, Fanshawe and Loyalist colleges
- Computer Engineering Technology at Lambton and Niagara colleges
- Computer Systems Technology at Fanshawe, Seneca and Cambrian colleges
- Telecommunications Technology (Technologie des télécommunications) at La Cité collègiale.

Colleges are experiencing some difficulty in attracting sufficient numbers of appropriately qualified students (students with sufficient levels of mathematics and sciences) who are interested in technology careers.

Other new programs with the information technology focus, approved in the same time period, include Website Management, Web System Analyst, Web Design and Production, Web Developer, Information Technology Support Services, Advanced Network Security and Connectivity, Wireless Telecommunications, Media Arts- Digital Production, Electronic Commerce, Computerized Business Systems, Internet Systems Administration and Internet Software Development, among others.

A sample of programs in other fields recently approved include:

- Human Resources Management offered full-time by Centennial College over three years that will examine current trends in organizational change, occupational health and safety, employment training, union-management relations and human resource planning. Co-op training is available and graduates will be eligible for the Certified Human Resources Professional designation with the Human Resources Professional Association of Ontario and may also pursue degrees through Lakehead University and Ryerson Polytechnic University.

- Cyberspace Security offered by Georgian College is a one-year, full-time post diploma program that prepares graduates for leadership roles in the design and development of systems, procedures and human resources to prevent, investigate and protect corporations and individuals with regard to information and computer security.

- Home Building Automation offered by Sir Sandford Fleming College over four semesters will focus on understanding computer-based building automation technologies including access control, lighting control, heating, ventilation and air-conditioning, appliance-control, home theatre and audio-visual control through infrared, remote, X10 and other technologies.

- Pharmaceutical Regulatory Affairs and Quality Operations offered by Seneca College and Guelph University over two semesters to graduates with a three-year science diploma or a degree focuses on regulatory compliance in the pharmaceutical industry. It also includes the option of co-operative education.

Key Performance Indicators

The success of colleges of applied arts and technology is also seen in the 1999 Key Performance Indicators results that demonstrate the quality and accountability of Ontario's colleges and show that system-wide

- Graduate Employment Rate of 90%
- Graduate Satisfaction Rate of 80%
- Employer Satisfaction Rate of 91%, and
- Student Satisfaction Rate of 68%

See Section 3 for a fuller discussion of Key Performance Indicators.

Partnerships

Thousands of businesses and industries across the province participate in ensuring that program quality is maintained through program advisory committees where employers and educators regularly review curricula to integrate the new skills necessary to adapt to the changing environment of work and the digital society. Partnerships with business and industry in a variety of areas, not only supplement public support for the colleges, but ensure that students are well-prepared for the workplace.

Some examples of such partnerships are listed below. Please note that some of these partnerships not only provide basic pre-work education but also address the ongoing needs for development of employees within the workplace.

- The Virtual University for Small to Medium Sized Enterprises (http://www.vusme.org), recently received funding from Industry Canada's School Net program for the development of Canadian online learning programs. The Learning Institute for Small to Medium Sized Enterprises in collaboration with Confederation College, with joint sponsorship by the Society of Management Accountants of Canada and Scotia Bank, will develop the project valued at over $1 million.
- Photonics Research Ontario, an Ontario Centre of Excellence, in which Algonquin and Niagara colleges are collaborating on development of photonics (laser) technician and technology programs and related courses and certificates with funding through the Strategic Skills Initiative of the Ministry of Economic Development and Trade. Industry partners include Nortel Networks, JDS-Uniphase, GSI Lumonics, Raytheon-ELCAN and Coherent Lasers.
- Novell Canada announced this year that Seneca College has become a Novell Education Academic Partner (NEAP), allowing Seneca to teach Novell-authorized courses as part of its programs, including allowing Seneca to offer Novell certification programs to Ontario high school teachers.
- The Sheridan Centre for Animation and Emerging Technologies continues its alliances with IBM Canada Limited, Cisco Systems Ltd., and Williams Communications. Cisco will bring its Networking Academies program to SCAET, and Williams Communications will construct fibre-optics infrastructure that will enable Sheridan's faculty, students and business partners to share multimedia content world-wide.
- Georgian College, in partnership with the Canadian Professional Golf Association, will deliver North America's first web-based certificate in golf operations aimed at Class A golf professional and associate pros, titled Professional Golf Management. This program is part of the CPGA's extended learning efforts.
- Centennial College and eCollege.com are launching an innovative Transportation Management program available exclusively on the Internet this fall. The program is designed for the transportation professionals who wish to expand their capabilities but are not able to attend regular classes.

Some other forms of partnerships include:

- Humber College has been selected with 11 other community colleges throughout North America by the League for Innovations to participate in the Vanguard Learning Colleges project. The colleges involved will test ideas and innovations to become more learning-centered institutions over the next three years. The 12 Vanguard Learning colleges will become incubators and catalysts for other educational institutions around the world as they share models and best practices.

- The virtual Centre of Excellence in Learning Disabilities Integration, an initiative by a consortium involving Loyalist College, Canadore College, Nipissing University and Trent University, helps students with learning disabilities to succeed in their post-secondary studies. This is one of a number of pilot projects across the province funded under the government's learning disabilities initiative.
- BRIDGE (Bi-National Regional Initiative Developing Greater Education) involves a consortium of Algoma University College, Lake Superior State College and Sault College in Sault Ste. Marie, Ontario and Michigan. Its mission is to facilitate and promote a co-operative approach among the three institutions to develop unique, cross-border educational opportunities.

College-University Consortium Council

The College-University Consortium Council (CUCC) was established to facilitate, promote, and co-ordinate joint education and training ventures that will aid the transfer of students from sector to sector, facilitate the creation of joint programs between colleges and universities, and further the development of a more seamless continuum of post-secondary education in Ontario.

The Ontario College - University Transfer Guide is currently being updated to reflect a new agreement template. *The Transfer Guide can be accessed at http://www.cou.on.ca/cucc.*

A survey of colleges conducted by the CUCC in November 1999 gathered information about college-university agreements. Twenty-three colleges responded, indicating that there is a general increase in the level of progress in negotiating college-university agreements, but that the increase is not experienced by all colleges in the system. Eleven of 25 colleges reported an increase, while 10 said the level was about the same, and two said it was lower. In 1999, colleges indicated that new agreements with Ontario universities had been completed or were in the process of development as follows:

Applied Arts	16
Business	12
Health	13
Technology	13

Colleges are currently working with local universities to finalize agreement regarding collaborative nursing programs in response to a decision by the College of Nurses of Ontario to require a baccalaureate as the entry-to-practice requirement effective 2005. On July 28, 2000, the University of Western Ontario and Fanshawe College announced a collaborative Bachelor of Science in Nursing program beginning in 2001-2002, which is expected to graduate approximately 200 students a year. Other agreements are anticipated.

In May 2000, the Council of Ontario Universities released the final report of The Working Group on Post-Diploma Degree Programs, *An Analysis of Degree-Completion Programs in 24 Program Areas.* Agreements in 17 of the 24 program areas are in place. Eleven of the identified college programs have at least one articulation agreement that falls within the matrix of the College-University Degree Completion Accord signed in May 1999 and a further five that come close. These agreements are seen as models for other institutions to follow in renewing or forging new agreements. A copy of the report is available from the CUCC website – *http://www.cou.on.ca/cucc.*

A portion of SuperBuild funding was awarded to joint projects encouraging college-university collaboration. Joint programs intiatives by SuperBuild include:

- Joint Undergraduate Degree in Information Technology at Algonquin and Carleton;
- Degree/diploma in Communication, Information and Multimedia Studies at Fanshawe and Western;
- Centre for studies in community health at George Brown and Ryerson;
- Integrated engineering and technology program at Windsor and St. Clair;
- Communication, Culture and Information Technology program at Sheridan and Toronto;
- Advanced Education and Training at Humber and Guelph
- Central Technology Enhanced Learning at Georgian and York
- Cooperative Venture Infrastructure at Sir Sandford Fleming and Trent.

Research

The Canadian Foundation for Innovation (CFI) announced in July 2000, the awarding of $363 million to support 214 infrastructure projects in 59 Canadian universities, colleges, hospitals and research institutions. A total of 21 projects were awarded to colleges and seven of these went to Ontario colleges including Fanshawe, Niagara, Sault (2), Sheridan and Sir Sandford Fleming.

Ontario Universities

Information on Ontario universities is available in *Facts and Figures 1999, A Compendium of Statistics on Ontario Universities* available through the Council of Ontario Universities at *http://www.cou.on.ca.*

Private Vocational Schools

There are over 300 private vocational schools currently registered in the province, many with more than one campus, with an enrolment of approximately 60,000 full-time students.

Public Perceptions

Education remains a key issue for the public. In February 2000, Angus Reid reported that in their latest survey, healthcare (55%) ranked as the number 1 issue for Canadians, with education as the distant second issue at 23%.[2]

An Angus Reid poll in May 1999 examined Canadian's current perspectives on the education system, both at the public school level and post-secondary levels with the following results.[3]

- On the skilled trade versus university education debate, a slim majority would steer today's young people in the direction of learning a trade/skill at a community college or technical college instead of acquiring a more general education at a university (the preferred option of one in three). The trade/skill route has been the majority public choice since the early 1990s.
- Canadians are very receptive to allowing the private sector to provide funding for certain post-secondary programs such as business schools — fully 9 out of 10 of those polled expressed overall support.
- Two-thirds of Canadians would like to see universities specialize in certain areas rather than offer a broad range of programs.
- A majority – just over half — would also favour establishing some privately-owned and operated universities in Canada, but many Canadians continue to oppose this prospect.
- Meanwhile public opposition has grown to the idea of hiking tuition fees so that university and college students pay more of the actual costs of education: whereas 34% of Canadians surveyed in 1993 expressed support for tuition fee increases, this figure has fallen to 19% today. In fact, a clear majority now voice "strong" opposition.
- Six in 10 Canadians say government funding for post-secondary institutions in their own province should be increased from current levels.

An American survey provides some indication of the public's perception related to post-secondary education as well. The National Center for Public Policy and Higher Education, an indepedent research group, found the following in a survey of the American public in 1999 on colleges:

- Higher education is more important than ever with most people believing that a college education has become the necessary admission ticket to good jobs and a middle-class life style. There was a strong belief that no qualified and motivated student should be excluded from college education because of cost.

- Beyond the awarding of a piece of paper, the public holds a long list of expectations of colleges, including helping students develop maturity, organizational skills, and an ability to get along with others, as well as providing specific skills, such as problem-solving and communication. They also want institutions to keep the cost down, but they also want to ensure quality by hiring good teachers and holding students to high standards.

- Responsibility for attending and completing college rests with the student but schools should help students through remediation and financial aid programs.

- Most people believe that anyone who really wants a college education can get one, despite the higher cost of post-secondary education. Parents say they are worried about paying for their children's college education but will work out a way to pay for it.

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[2] Media release, February 6, 2000 retrieved from http://www.angusreid.com/media

[3] Media release, June 22, 1999 retrieved from http://www.angusreid.com/media

- At least for the moment, the public is satisfied with the nation's higher education, and people are more likely to focus their attention on other issues that they perceive as more problematic. For a variety of reasons, most Americans do not know a great deal about the administration and financing of higher education and have not yet taken a position on the questions and debates about higher education.

It should be remembered that in the U.S. the term "college" would include four-year degree institutions as well as two-year associate-degree institutions.

Future Directions

In response to the new millennium, much has been written in the past year on the needs of the 21st century and the future role of colleges or their equivalents in the new century. The following are recurrent themes.

Responsiveness

Colleges must be ready to respond quickly and effectively to meet the needs of business and industry as well as meeting the needs of students who will want education to be relevant, timely, accessible and affordable. Increasingly students will demand and be able to access education where they want it, how they want it and when they want it. They will have increasing access to education from all over the world.

Diversity

The availability of a wide range of educational opportunities will be needed to meet the demands of the economy and the needs of an increasingly diverse population, particularly in urban areas. No one model fits all learners or all labour market and societal needs. There will be increasing competition through the Internet from other public institutions and also from the private sector.

Flexibility

The increasing rate of change and the challenges presented by globalization require that institutions be able to respond quickly to meet these challenges.

Greater level of collaboration

Relationships are the key to sustainable competitive advantage – high-trust, high-integrity relationships with students, employers, the community, with other educational institutions and politicians will be much more critical in the future. Funding from traditional sources will continue to decline, either in actual dollars and/or in proportion to the services that they support. Worldwide, many legislators are viewing higher education as a discretionary funding item. Increased collaborative activities at a variety of levels will strengthen colleges and may provide opportunities for effective efficiencies, making funds available for the innovative approaches that the future will require. The collaborative opportunities of the "wired world" must be fully utilized to ensure viability of the sector and individual institutions.

Higher quality standards and accountability demands

The public will continue to be concerned about what it is getting for its money and how well post-secondary education manages its funds. As students are required to fund an increasing portion of their education, they will seek out and select those institutions that provide the best opportunities for student success, including employment opportunities. The National Center for Public Policy and Higher Education in the U.S., plans to issue a report card this fall on how well the 50 states deliver higher-education to their residents.[4]

Accessibility

The knowledge-based economy requires increasingly high levels of education as a pre-requisite for employment, but also requires that skills and knowledge be upgraded on a regular basis -- truly a life-long learning process. Demand for educational opportunities at the post-secondary level will increase. The Internet and other electronic innovations will provide solutions if utilized to their full potential.

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[4] *The Chronicle of Higher Education*, March 3, 2000, p.A30

Elementary & Secondary Education

Secondary School Reform

Beginning in September 1999, a rigorous four-year high school curriculum, with strong emphasis on English, science and math, was introduced in Ontario for Grade 9 students. Consistent standards and clear expectations about what is to be taught across the province are designed to ensure that all students receive the knowledge and skills they need.

The remainder of the new curriculum, Grade 11 and 12 courses, was released in June 2000 and will allow students to choose pathways to destinations of work, college or university education through courses identified as workplace preparation, university/college preparation, college preparation, and university preparation courses.

In addition to successfully completing 30 credits, 18 of which are compulsory, a student must also complete 40 hours of community involvement and pass the Ontario Secondary Literacy Test, taken in Grade 10, to meet the requirements for a Secondary School Graduation Diploma. This test will be a requirement beginning in 2001.

A province-wide, clear, easy to understand report card was introduced as well. It will provide detailed, consistent information about student's progress, including all attempts at courses, a request from colleges and universities.

Colleges will be establishing the specific admission requirements within the context of the Ministry of Training, Colleges and Universities' policy on college admissions, based on the new Grade 11 and 12 curriculum, for admission to colleges and specific programs. This information will be needed by January or February 2001 to allow students entering Grade 11 in September 2001 to gain entry to colleges and programs of their choice.

A double cohort of Grade 12 students will begin graduating in 2003 creating a significant increase in the demand for post-secondary education and employment opportunities.

Students entering colleges from the new secondary school programs should have stronger and more consistent levels of English, mathematics and science skills.

Standardized report cards province-wide will impact college admission processes.

Colleges will experience increased pressure on community placements as high school students now require community and work placements.

Participation in Formal Education

Participation rates in post-secondary education in Ontario are higher than the national average, as the two tables below show, indicating generally the availability of a well-educated workforce to meet the needs of the knowledge-based economy. Latest statistics from the Organization for Economic Co-operation and Development indicate that Canada has one of the highest rates of participation in post-secondary education in the world, a significant contributor to the high standard of living enjoyed by Ontario citizens.

Figure 2.1
Full-time Enrolment in Postsecondary Education as a Proportion of Population 18-21 Age Group, 1997-98

	Ontario	*Canada*
Men	32.8%	30.8%
Women	38.6%	38.0%
Total	35.6%	34.3%

Figure 2.2
Full-time Enrolment in Community Colleges as a Proportion of Population 18-21 Age Group, 1997-98

	Ontario	*Canada*
Men	22.9%	20.4%
Women	25.8%	20.0%
Total	24.3%	20.2%

Source: Statistics Canada. *Education Quarterly Review*. Vol. 5, No.4. Statistics Canada Catalogue No. 81-003.

Figure 2.3
Annual Estimates of Educational Attainment of Population Aged 15 years and over, Canada 1998

	Total	**Men**	**Women**
Grades 0-8	11.3%	10.8%	11.8%
Some Secondary	18.8%	19.1%	18.5%
High School Graduation	18.9%	18.0%	19.9%
Some Post-Secondary	9.0%	8.8%	9.2%
Post-secondary Certificate/Diploma(includes trade certificates)	27.7%	27.7%	27.7%
University Degree	14.3%	15.6%	13.1%

Source Statistics Canada. *Education Quarterly Review*. Vol. 5, No.4. Statistics Canada Catalogue No. 81-003

Figure 2.3 shows that approximately 70% of the employment-aged population have at least high school graduation, with fewer males completing high school than females. It is interesting that the most dominant type of education credential is at the college level.

Although a significant proportion of the population is well-placed to find employment in the knowledge-based economy, it is important to provide additional opportunities for those who have not attained the necessary educational level and to ensure that opportunities are available for those, who in the future, may need to upgrade their education level as the labour market requires ever-increasing levels of educational attainment. Colleges are well-placed to do this.

Figure 2.4
Labour Force Participation Rates and Unemployment Rates of Population, Aged 15 and Over, by Educational Attainment and Sex, Canada, 1998.

	Labour Force Participation Rate			Unemployment Rate		
	Total	Men	Women	Total	Men	Women
Grades 0-8	26.2%	36.2%	17.4%	14.1%	13.6%	15.1%
Some Secondary	50.8%	60.3%	41.3%	14.7%	14.8%	14.6%
High School Graduation	70.0%	19.4%	61.9%	8.3%	8.4%	8.2%
Some Post-Secondary	69.6%	74.3%	65.3%	9.5%	9.7%	9.3%
Post-Secondary Certificate/Diploma (includes trade certificates)	76.7%	82.4%	71.2%	5.6%	4.8%	6.4%
University Degree	83.0%	85.4%	80.2%	4.3%	4.2%	4.5%

Source: Statistics Canada. *Education Quarterly Review*. Vol. 5, No.4. Statistics Canada Catalogue No. 81-003

Individuals with higher levels of education have better labour market outcomes as Figure 2.4 shows. Employment rates increase and unemployment rates decrease with higher levels of education; an important return to society for the increased expenditure associated with post-secondary education.

Job-Related Adult Education and Training

Statistics Canada, reporting in *Perspectives on Labour and Income,* Autumn 1999, identified that in 1997 more than six million people, or 28% of Canadian adults, participated in adult education and training activities.

Age and levels of education attainment continue to be important factors in the decision to participate in such activities. The percentage of adults participating range from 5% for those over 64 years to 39% for those aged 17 to 34. The influence of education on participation rates is also evident. Rates range from 11% among those with less than high school diploma to 48% among those with a university degree.

Canadians invest in education mainly to remain competitive in the labour market. Three out of four adults who took part in an education or training activity reported doing so for job-related purposes; one in 10, for personal interest or leisure reasons.

Among the labour force population, 29% of the employed and 20% of the unemployed participated in job-related adult education and training activities. Only 6% of those not in the labour force did the same. Among the employed, 32% of paid workers participated, compared with 18% of self-employed workers. Almost one-quarter of the employed population enrolled in job-related education or training activities sponsored by their employer.

Companies that have increased their training have higher profits, increased productivity, reduced waste, higher customer satisfaction and retention, and a better health and safety record.

A survey, done in 1998, by the Ontario Institute for Studies in Education, University of Toronto[5], showed that over 95% of Canadians were involved with some significant form of informal learning activity in the previous year. Those in the current labour force, or expecting to be soon, (about 2/3 of the total sample) now average about six hours a week in informal learning related to their current or prospective future employment. The most common learning activities involved:

- about 3/4 engaged in informal learning projects to keep up with new general knowledge in job/career;
- almost 2/3 were in informal employment-related computer learning;
- about 2/3 learned new job tasks;
- about 2/3 learned problem solving/communications skills;
- over half learned about occupational health and safety; and
- almost half learned other new technologies.

Most people engage in some other type of informal learning related to their general interests – about 90% spend an average of six hours a week on these types of learning activities, including:

- 3/4 of respondents were involved in learning about health and well-being;

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[5] General Summary of Findings from the *First Canadian Survey of Informal Learning* retrieved from http://www.oise.utoronto.ca/depts/sese/csew/nall/sur_res.htm

- 60% involved in learning about environmental issues;
- 60% involved in learning about finances; and
- over half were involved in things such as hobby skills, social skills, public issues, computers, sports and recreation.

Training for the New Economy, a report of the Canadian Policy Research Networks, indicates the following trends:

- a growing share of employment is in highly-skilled, knowledge-intensive jobs and, as a result, access to basic education as well as training have become increasingly important;
- formal learning has truly become a lifelong requirement. Training delivery must be flexible to accommodate many who continue to work while enrolled in training activities; and
- with the increase in part-time and self-employment, a growing number of individuals have little choice but to accept the responsibility for ensuring that they have the skills to navigate the labour market.

The rapid change in knowledge and technology increasingly requires lifelong learning. Some predict that education will be the largest industry in the world by 2010. There will be much competition globally for both basic and advanced education delivery and corporate training from both the public and private sector. David Crane, in The Toronto Star, Saturday, February 12, 2000, identifies education and training services as growth industries and reports that more than half the companies in this field were established since 1984. These companies focus on executive and management development training, computer related training, sales and marketing and professional technical training. The Internet is expected to increase growth further.

Educators need to acknowledge the amount of informal learning most people achieve on their own and address it through more responsive programs.

Significant opportunities exist for colleges but competition will be strong.

Literacy and Basic Skills

All colleges deliver this program, with at least 58 English and seven French delivery sites across the province (one college did not submit data to the 1999-2000 survey). In Literacy and Basic Skills, there were 8,861 (3,544 male and 5,317 female) participants in Levels 1-5, and 2,124 (658 male and 1,466 female) participants in Ontario Basic Skills, level IV.

Figure 2.5 Student Profile, 1999-2000 – Literacy and Basic Skills

Characteristic	Literacy and Basic Skills Levels 1- 5	Ontario Basic Skills Level IV
Ages 16-18	4%	5%
19-24	31%	31%
25-44	54%	52%
45-64	11%	11%
65+	>1%	1%
Education Completed		
Up to Grade 8	13%	7%
Grades 9, 10, 11	54%	43%
Grade 12	25%	32%
Grade 13, OAC	8%	18%
Training Goals		
Employment	19%	13%
Further Education/Training	72%	82%
Personal Independence	9%	5%

Continuing Education

All colleges offer a variety of programming on a part-time basis for personal and professional development ranging from basic literacy skills to trades and apprenticeship certification and professional association certification. Personal interest courses are also offered.

Prior Learning Assessment is available to adults with significant work and life experience. Their skills and knowledge are assessed for course credits toward a college certificate or diploma. The assessment process could include a variety of evaluation methods including challenge tests, demonstrations or portfolio development.

Contract Training

All colleges offer a variety of services in their local communities that provide appropriate training and development opportunities for businesses and industries in the area. Training is provided to more than 100,000 participants annually. In a recent survey, contract training programs in the colleges scored straight "A"s from more than 700 clients, including Fortune 500 companies. Nine out of 10 clients are repeat customers.

*CON*NECT*

Colleges of Ontario Network for Education and Training (CON*NECT) is a division of ACAATO that business, industry and the public sector can utilize to access the training and development resources of the Ontario's 25 colleges of applied arts and technology through a single entry point. Following are some of the projects undertaken by CON*NECT in 1999-2000:

- Teranet Land Information Services Inc. utilized CON*NECT resources to launch a series of software training workshops to support the Ministry of Consumer and Commercial Relations' move to remote registration of Land Title documents. In the first series of workshops more than 200 members of the legal community in Middlesex County attended workshops at Fanshawe College. Workshops will be provided by other colleges as the implementation of the new registration system is phased in across the province.

- The Ontario Community Newspaper Association (OCNA) is working with colleges to design and deliver training for newspaper staff. Humber College developed six training modules for editorial staff and Niagara College is completing a training program for sales staff. Ultimately, the full program will be delivered in eight to ten locations across the province.

- Cummins, Ontario will utilize college resources to provide a comprehensive training program for diesel repair staff across the province working with Fanshawe, Cambrian, Algonquin and Confederation colleges.

Online Learning

A number of authors write about the transformational impact that information technologies will have on higher education over the next several decades. Many predict that Information technology, by opening new and fundamentally different options for teaching and learning, will make structural changes in the system inevitable.

Distributed or online learning is reported to be the fastest "growth sector" in education.[6]

For thousands of students around the world, online learning provides them with the opportunity to access educational opportunities at times and places convenient for them. The offerings are diverse and increasing hourly. The role of information and communications technologies in the delivery of instruction ranges from incidental to all-encompassing. The teacher may remain the major information source at one end of the technology continuum, or may merely play the role of facilitator as the student utilizes the online learning tools.

According to the Massachusetts-based International Data Corp., about 15% of all post-secondary students will be enrolled in online courses by 2002 in the U.S alone, compared with 5% in 1999.[7]

Canada

In 1999, New Brunswick's TeleCampus listed over 18,000 courses identified in its database that could be taken completely online. The courses were offered by 900 institutions, in 30 countries and in 10 languages. U.S. institutions offered 75% of all online courses; 16% of online courses were offered by institutions in Canada.[8]

Canadian institutions are increasing their use of information and communications technologies to achieve a variety of goals including improving the quality of their current distance education delivery models, enriching the quality of the on-campus learning experience, improving access, meeting perceived competitive forces and finally, reducing costs or increasing enrolment without increasing costs. Limited access to bandwidth at affordable rates has meant that text remains the primary format for materials. Full multimedia learning will evolve as bandwidth becomes more technically and financially accessible.[9]

Athabaska University in Alberta, Télé-Université du Québec and British Columbia's Open University are three universities that deliver all of their programs through various distance teaching systems and methods. The University of British Columbia and Royal Roads, TeleEducation, New Brunswick along with new initiatives such as Canadian Learning Television and the Technical University of British Columbia are players in this online revolution in Canada. Open College in British Columbia, Mount Royal and Kayas College in Alberta, Collège de l'Acadie

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6. Herándes, P. *Questions and Answers*, in *Community College Journal*, Vol.7, No.2, October/November 1999, p.48

7. *Maclean's*, September 6, 1999.

8.The Third Annual Canadian Education Industry Summit, National Post Conferences. Toronto, October 6, 1999.

9. Farrell, G. *The Development of Virtual Education: a global perspective*. The Commonwealth of Learning, Vancouver, 1999

in Nova Scotia provide programming at the college level online.

Ontario lags far behind in this area. Some institutions are offering some programming online to meet mostly niche markets, but there has been no significant move to provide a range of programming online, as is occurring in other jurisdictions.

Governments at both the national and provincial level support online learning. Industry Canada will spend $20 million in grants over three years in a bid to boost the volume of Canadian "learnware."

To help Canadian schools keep up with the competition, Industry Canada has encouraged the formation of consortia to develop and deliver online courses. In Atlantic Canada, six universities have banded together to develop and deliver first-year university courses online.

The Telelearning Network of Centres of Excellence links Canadian researchers and client communities in the research, development and demonstration of learning models, methods, technologies and social practices which enable telelearning – the use of networked computer environments and tools for education and training (See http://telelearn.ca). Virtual-U, a web-based, network-learning environment customized for post-secondary and/or workplace education, is one of the major projects – developed at Simon Fraser University (See http://www.vu.vlei.com).

In May 2000, the Ontario Minister of Energy, Science and Technology announced the creation of the Ontario Research and Innovation Optical Network (ORION) with the province investing up to $57 million over five years. ORION is a new partnership between the government, the research community, and the private sector to help Ontario become a world leader in the development of the Internet and a global electronic business hub. It will be completed in three phases over five years with the government targeting up to $3.5 million to link universities to the ORION network. Additional investment of up to $17.2 million is anticipated from several partners, led by the Optical Research Advanced Networks Ontario (ORANO) consortium. Subsequent phases will connect colleges, research institutes and other research facilities as well as launching some special research projects.

WebCT is the world's most popular software used to construct and deliver online courses. Developed in 1996 by UBC computer science professor Murray Goldberg, it is now used by 877 institutions in 46 countries. It was sold in May 1999, to Massachusetts-based Universal Learning Technologies.

Calgary's Southern Alberta Institute of Technology, which developed its own courseware platform *The Learning Manager*, has recently re-purchased the software it originally sold to a U.S. company. It will begin development of Cyber-SAIT and plans to offer at least 45% of courses online and double enrolment by 2004.

Contact North/Contact Nord is a network of 145 distance education and training access centres throughout Northern Ontario and beyond, providing programs, courses and training opportunities in English and French offered by colleges, universities, secondary schools and the private sector. More than 9700 registered for 533 courses in 1998. The Commonwealth of Learning recognized the network as a world leader in distance education in 1999 by honouring it with one of the first three *Awards of Excellence for Institutional Achievement in Distance Education*. Funding is provided by the Government of Ontario. In partnership with ADCOM, Bell Canada and IBM Canada, Ltd., the *Centre for Innovation in Learning* has been established with Northern Ontario secondary schools, colleges and universities to assist in effectively applying technology in learning and technology.

OntarioLearn.com (formerly Contact South), a consortium of 21 colleges, that delivers courses and programs online, lists more than 250 courses available for the 2000 fall term. Starting with just two courses in 1996, ContactSouth now offers twenty-one certificate programs, although in some instances the full program may not be available online.

A number of colleges are increasing their offerings available online. George Brown College has developed a complete Electrician Technician Program, Electro-Mechanical Technician Program, and Electronics Technician Program for delivery via CD-ROM that are the equivalent of a standard two year program.

On the private sector side, Unexus University, the world's first private, Internet-based, degree-granting university, was launched in the fall of 1999 and began classes in January 2000 for its first program, the Executive Master of Business Administration. Based in Fredericton, N.B., Unexus is owned and run by Learnsoft Corporation, a world leader in designing and delivering Internet-based learning systems and courseware. In March 2000, Unexus announced that it had reached an agreement with the Boston-based Arthur D. Little School of Management to offer dual degree business programs. The *MBA Career Guide* has ranked the Arthur D. Little School of Management as one of the top 30 international graduate business programs in the U.S. in its annual survey.[10]

Corporate training networks, developed initially to meet internal training needs, are now exploiting external market opportunities and are increasingly seeking formal recognition for the training they provide.

Specialized service organizations are also focusing on providing consultation, project management and technical support. IBM Global Campus and McGraw-Hill Learning Infrastructure are examples.

Students are also becoming involved in aspects of computer-mediated instruction. For example, the bookstore at Queen's University is using the electronic media in an innovative manner by creating an online review site which allows students to rank books using an numerical scale. Professors may then access the information to inform their selection of textbooks. (See http://www.campusbookstore.com/queens).[11]

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[10] News Release. Tuesday, May 2, 2000 retrieved from http://www.learnsoft.ca/news/news3.hmtl

Quality of the Online Learning Experience

The quality of online education is a major concern, but the results of some early research are quite encouraging. A study by York University shows that students who take Internet courses from York do as well or better than students who sit in class. The grades of 1,099 students in Internet courses between the fall of 1996 and the fall of 1998 were compared with grades of students in the same courses offered in a lecture format or through traditional correspondence courses.[12] Another study, by the National Education Association in the U.S. and Blackboard Inc., a company that sells distance-learning software and services to colleges and universities, asked the Institute for Higher Education Policy to collect reliable information on what contributes to quality online learning. The study of six institutions in the U.S. widely considered to be leading distance-education providers compiled a list of 24 benchmarks for quality distance education. A copy of the study can be accessed at *http://www.ihep.com.*

Other Jurisdictions

Pennsylvania's 15 community colleges have created the Pennsylvania Virtual Community College Consortium, which allows state residents to take courses from any of the member colleges using Internet and video technology. On its World Wide Web site (http://www.pavcc.org), the consortium lists approximately 800 courses which are available. Participating colleges continue to deliver courses and award degrees. Other states, including Illinois and Massachusetts, have similar joint efforts.[13]

Fourteen of North America's largest research universities will create a common portal or directory to access their online program offerings. Similar portals or directories are offered by Western Governors University, California Virtual University, the Southern Regional Electronic Campus, Kentucky Commonwealth University, Pennsylvania Virtual Community College Consortium, Britain's Open University, and eCollege. Universities participating in the new online directory include Massachusetts Institute of Technology, New York University, Pennsylvania State University, Stanford University, University of California at Berkeley, University of Illinois at Urbana-Champaign, University of North Carolina at Chapel Hill, University of Texas at Austin and **University of British Columbia** among others. Credits and degrees will be awarded by member institutions. The new directory will be co-ordinated by the University of Washington.[14]

Thirteen of the 15 institutions in the Associated Colleges of the South have established a consortium to create a virtual classics department and six professors from six colleges will team teach this fall to deliver an advanced-Latin course over the Internet. Pooling resources over the Internet will allow the colleges to share resources to create one of the largest classics departments in the U.S and it also allows colleges to enhance their teaching in ways never before possible.[15]

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[11] *The Chronicle of Higher Education*, May 19, 2000, p.A53.

[12] *The Globe and Mail*, July 14, 1999

[13] *The Chronicle of Higher Education*, March 31, 2000, p.A51

[14] *The Chronicle of Higher Education*, June 10, 1999

In the fall 1999, the Massachusetts Institute of Technology and University of Cambridge announced a $135 million venture to form the Cambridge-MIT Institute. It will not have a physical site but will use the faculty members and students at both institutions to:

- collaborate on research and education to improve British productivity and competitiveness;
- develop research programs to improve technology;
- stimulate spinoff companies to engage in research;
- bring MIT's business-executive programs to Britain;
- develop shared courses in science and management; and
- form a national competitiveness network among British universities, offering courses in entrepreneurship and productivity.

The two institutions will develop curriculum jointly and anticipate establishing a model for globally linked research universities of the future.

News Corporation (Rupert Murdoch) will set up a joint venture company with Universitas 21 to capture the major share of the rapidly growing global market for online higher education aimed at college graduates who are already working. Under the new arrangement member institutions of Universitas 21 will provide the quality assurance structure, assessment and degrees for all courses offered. News Corporation will provide global distribution platforms, advanced technologies and marketing reach. The Universitas 21 network, which has 18 members, is spread across 10 countries in Asia, Australia, Europe and North America including Alber Ludwigs University Freiburg, Fudan University, Lund University, McGill University, National University of Singapore, University of Auckland, University of Birmingham, University of British Columbia, University of Edinburgh, University of Glasgow, University of Hong Kong, University of Melbourne, University of Michigan, University of New South Wales, University of Nottingham, University of Peking, University of Queensland, **University of Toronto.**[16]

Emerging Trends

There is growing commercial interest in education, both from the private sector and from public institutions setting up for-profit subsidiaries.

The importance of partnerships and alliances will increase as institutions realize the expertise and financial requirements are huge and are more manageable in a shared process. As well as the examples above, consider the 180 institutions that co-operatively offer degrees through the Public Broadcasting Service/Adult Learning services's *Going the Distance* Program in the U.S.

The new learning platforms provided by technology has led to the realization that learners need to play a more active role in the learning process. They demand greater flexibility in how and when they access faculty members, other students and instructional resources. The role of faculty members has to change and the types and qualities of instructional resources have to move beyond the traditional textbook model.

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[15] *The Chronicle of Higher Education*, July 7, 2000, pp A33-34.
[16] *The Chronicle of Higher Education*, June 2, 2000, pA47.

Online learning requires focus on a whole systems approach with as much attention devoted to student support services as to course materials.

"Unbundling" of the educational process and move to outsourcing of services not considered to be core is occurring. Counselling services, financial aid and other student support services may increasingly move in this direction.

Assisting faculty efforts to integrate technology into instruction remains the single most important challenge confronting higher education over the next two or three years. [17]

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SECTION 3

LEARNERS

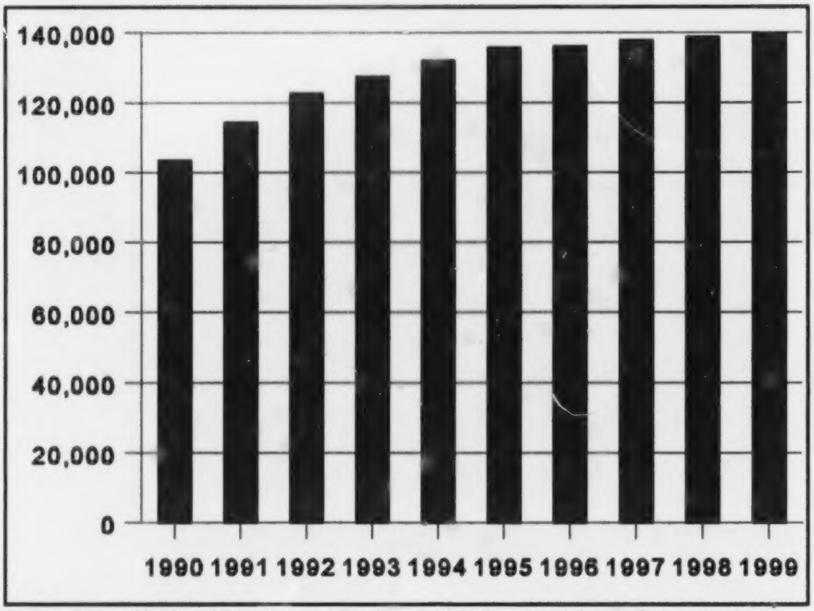
Post-Secondary Enrolment and Demographics
Student Satisfaction KPI
Graduate Satisfaction KPI
Tuition Fees and Student Debt

LEARNERS

At the centre of the teaching-learning process are students, who represent the rationale for the existence of the colleges of applied arts and technology. This section will provide an overview of students, the major client group served by the colleges.

Post-secondary enrolment and demographics

Figure 3.1 Full time Post-secondary Enrolment in Ontario Colleges



Source: Ontario Ministry of Education and Training. *CAAT2 Report* and Ontario College Application Service. *Nov.1 Survey of Colleges*

Overall college full-time post-secondary enrolment remained relatively similar between 1998-99 and 1999-2000 rising by less than 1% from 138,820 to 139,466 students. Colleges that experienced significant enrolment growth (5% or more according to OCAS statistics) include Conestoga, Durham and Humber Colleges. Enrolment levels from 1976 to this year can be found in Appendix 3.1 at the end of the section.

Figure 3.2 shows the breakdown by year of post-secondary enrolment from 1995 to 1999. It should be remembered that the majority of programs at colleges are one and two-year programs and most students would plan on graduating in one or two years as opposed to moving into year three of a program. In 1998, approximately 62% of students in first year moved on to second year in 1999 and 30% of students in second year went onto third year.

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Figure 3.2 Post-secondary registrants in colleges by year

	1995	1996	1997	1998	1999
Year 1	56.5%	54.8%	54.8%	56.1%	55.3%
Year 2	34.0%	35.1%	34.9%	33.9%	34.6%
Year 3	9.4%	10.1%	10.3%	10.0%	10.1%

Source: Ontario College Application Service (OCAS)

Figure 3.3 Post-secondary registrants by division

	1995	1996	1997	1998	1999
Arts	49,989	47,820	48,469	47,169	47,665
Business	42,932	44,675	46,596	47,395	47,578
Health	14,561	14,386	12,542	12,905	14,065
Technology	28,398	29,247	30,237	30,651	30,158

Source: Ontario College Application Service (OCAS)

Enrolment in the business division has grown the most between 1995 and 1999. This is consistent with the rapid growth in the business services and information technology sectors of the economy. Technology division enrolment has the next largest increase. Health sciences division has experienced a slight decline in enrolment and there has been a much more significant decline in the arts division enrolment.

Figure 3.4
Overall data on college post-secondary applicants in 1998 and 1999

Data from the Ontario College Application Service	1998		1999	
	Applicants Year 1	**Registrants Year 1**	**Applicants Year 1**	**Registrants Year 1**
Age:				
• 19 and under	38.1%	35.1 %	38.4%	38.9%
• 20 to 24	44.3%	45.0%	40.8%	42.1%
• 25 to 29	8.2%	8.7%	9.1%	9.1%
• 30 and over	8.1%	10.1%	11.7%	8.8%
• unknown	.94%	.93%	1.4%	1.1%

Data from the Ontario College Application Service	**1998**		**1999**	
	Applicants Year 1	**Registrants Year 1**	**Applicants Year 1**	**Registrants Year 1**
Gender:				
• Female	52.8%	52.7%	52.6%	52.0%
• Male	47.2%	47.3%	46.2%	47.0%
• Undisclosed			1.2%	. 98%
Current Secondary School Student:				
• Yes	49.4%	44.4%	37.8%	43.3%
• No	50.6%	55.6%	62.2%	56.7%

Further data by region is presented in Appendix 3.2 at the end of the section.

Catchment Area Statistics

The Fall 1999 Marketshare Report, prepared by OCAS, shows the number of first year students who attend their local college compared to the number who attend a college outside their catchment area.

Figure 3.5
First Year Students Attending Local College or Outside Colleges 1999

Total Ontario residents who leave their catchment area to attend another college (NOT including French colleges)	34,726
Total Ontario residents that stay in their catchment area to attend college NOT including French colleges	38,467
Total Non-Ontario residents that attend an English college	1,093
Total Ontario residents that attend a French college	2,417
Total Non-Ontario residents that attend a French college	592

Movement Between Colleges and Universities

In recent years, the percentage of university graduates who subsequently obtain a college diploma (within five years of university graduation) has more than doubled from 3% of the Class of 1982 to 7% of the Class of 1990. The reasons cited by those who continue their education at the college level are usually labour market-related: to find a job, to get a better

one, or to improve their performance in the current job[1].
In 1999, 4,567 students enrolled in college had a university background according to OCAS data. This number may be low as it reflects only those students who chose to supply this information. It is not required information in the application process.

Future Enrolment Projections

The ACAATO Secretariat has worked with Committee of Registrars, Admissions and Liaison Officers (CRALO) and the Ministry of Training, Colleges and Universities over the last year to develop enrolment projections for the college system through to 2026. Highlights of the projection are reproduced below and the complete projection is presented at the end of the section in Table 3.3: *Enrolment Projections in Colleges to 2026.*

Figure 3.6 Highlights - Enrolment Projections

Selected Years	**Number**	**Change from 1999-2000**	
		Enrolment Increase	**Percent**
1999-2000 Headcount (Nov.1, 1999)	137,342		
2005 Projection (peak of double cohort)	168,609	31,267	22.8
2009-10 Projection	163,835	26,493	19.3
2015-16 Projection	168,632	31,290	22.8

The participation rate of all age groups has been projected at 0.1%, regardless of provincial population numbers. Increased numbers of students flowing from secondary schools due to the introduction of the four-year secondary school program (double cohort) is expected to begin to impact enrolment in colleges beginning in September 2003 with the peak occurring in 2005 and trailing off by 2008. Continuing pressure for admissions will continue through to 2015 due to continuing growth of the number of individuals in the 15-19 age group up to 2015.

More detailed information on enrolment projections is available in Appendix 3.3.

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[1] Warren Clark. *University graduates at college.* Canadian Social Trends. Autumn 1999 Statistics Canada - Catalogue No. 11-008, pp. 18-19.

KEY PERFORMANCE INDICATORS

Historically, Ontario's colleges of applied arts and technology have had a tradition of being accountable through methods such as community-based governance, program advisory committees and provincial program standards. However, there was no system-wide accountability mechanism to measure a college's performance.

The former Ministry of Education and Training worked with the college system to develop key performance indicators (KPI) to measure program quality and relevance in the late 1990s. Ultimately, five KPI factors were identified – post-college outcomes, graduate satisfaction, employer satisfaction, student satisfaction and student graduation. Data collection on graduate outcomes, graduate satisfaction and employer satisfaction began in the fall of 1998. These indicators are being factored into the mechanism for distributing government transfer payments amongst colleges in the current fiscal year. Student satisfaction and student graduation data are also being gathered but will not be tied to the funding distribution method at this time.

Student Satisfaction

The majority of full-time post-secondary students at Ontario's 25 colleges say their programs give them the knowledge and skills that will be useful in their future career and that there is a quality learning experience. However, colleges are rated lower on the provision of knowledge and skills that will be useful in life *outside work*, and the overall quality of the facilities, resources and services in the colleges.

- Approximately 83% of the students surveyed say they were very satisfied/satisfied with the knowledge and skills provided as being useful to their future career. This compares with 81% in the 1998 survey. Twelve per cent were neutral and 5% dissatisfied/very dissatisfied.

- 75% of students were pleased with the overall quality of the learning experience, 18% neutral and 5% wanted improvement, the same as the year earlier.

- System-wide results with regard to facilities, resources and services show

  - 64% were satisfied with the overall quality of facilities and resources, 25% were neutral, and 11% were dissatisfied.
  - 62% were satisfied with the overall quality of the services in the colleges, 27% were neutral and 11% were dissatisfied.
  - 64% identified that the knowledge and skills received will be useful in life outside work; 28% were neutral and 7% were dissatisfied.

Graduate Satisfaction

1998-1999 college graduates were surveyed six months after graduation. Results indicated that 80% of graduates were satisfied/very satisfied with their college experience; 11 were neutral and 9% were dissatisfied/very dissatisfied. This compares with 69%, 21% and 10%, respectively, the previous year.

Graduate outcomes were discussed in Section 1 – Labour Market Outcomes for College Graduates. **Employer satisfaction** rate was 91%.

The full package of Key Performance Indicators, released in April 2000, is available at http://acaato.on.ca/kpi.

Tuition Fees and Student Debt

As government support for colleges through the general purpose operating grant has decreased, tuition fees have increased in an effort to offset some of the operating grant reductions. More financial assistance has been made available to students in financial need to ensure that no student is denied a post-secondary education.

Current agreements between the federal government and financial institutions who deliver the Canada Students Loan Program expired on July 31, 2000. The federal government, in collaboration with the provinces, requested responses from financial institutions for a new agreement on the delivery and administration of the Canada Students Loans Program. Too few financial institutions indicated an interest in continuing to participate in the Canada Student Loans Program to ensure viability of the program. The Federal Government has guaranteed there will be no interruption in service as the Government takes the necessary steps to have service bureaus administer the loan system.

The Ontario Student Loans Program will continue to operate as it has in the past with the continuation of existing agreements with financial institutions. The province will continue to guarantee student loans. The implications of these changes for the harmonization process, that the Ministry of Training, Colleges and Universities was pursuing with Human Resources Development Canada, is unclear.

Tuition Fees Announcement 2000-01

The Government of Ontario announced in March 2000, that beginning in the 2000-01 academic year, colleges and universities would be allowed to raise tuition fees, for most programs, to a maximum of 2% per year, for five years. This would mean an increase of approximately $34 for college tuition for September 2000. The average tuition fee for 2000-01 will be $1,718. This compares with $3,951 for a university undergraduate arts degree.

This announcement marks a slowing in the increase in tuition fees which students have experienced over the previous decade. Between 1990-91 and 2000-01, tuition fess increased by 132%, although over the next five years, the increase will be limited to 10%. The strategy expects students to pay approximately 35% of the total cost of post-secondary education. Appendix 3.4 at the end of this section gives a multi-year overview of tuition fees in colleges. Appendix 3.5 provides an interprovincial comparison of tuition fees between 1990 and 2000. Comparative statistics for 2000-01 are not yet available.

Some programs fall outside the announced tuition fees directive due to deregulation that was announced in 1997-98. In these program, fees increases may exceed the announced 2%. Appendix 3.6 provides an overview of cost recovery programs or deregulated programs outside the fee policy.

An Angus Reid Poll released in March 2000 reported that 82% of Ontarians opposed increasing college and university tuition fees. Eighty-six per cent felt that Ontario business has a role to play in funding post-secondary education.[2]

Ontario Student Assistance Program

- Under the Ontario Student Assistance Program (OSAP), supplemental financial resources are available to cover educational costs and basic living expenses. Families and students are expected to contribute to educational costs. Through an OSAP application, individuals may apply for Ontario Student Loans, Ontario Student Opportunity Grants, and Aiming for the Top Tuition Scholarships as well as federal programs such as Canada Student Loans, Canada Study Grant for Students with Dependants, and Canada Millennium Scholarships. In Ontario, the average 1999-2000 loan was $6,782 and in 1998-99, the average loan was $6,767. Forty-six per cent of Ontario college students relied on loans provided through OSAP to finance their education.
- Under the Ontario Student Opportunity Grant Program, students repay only up to $7,000 per year in student loans, even if they have borrowed above that amount.

Figure 3.7 Student Profile of OSAP Awards by Sector

1999-2000	**Married/Sole Support**		**Independent**		**Dependent**	
	#	**%**	**#**	**%**	**#**	**%**
Colleges of Applied Arts and Technology	14,682	23.0	18,131	28.5	30,865	48.5
Universities	8,502	10.0	26,347	31.0	49,185	59.0
Private Vocational Schools	7,538	48.0	5,376	34.0	2,842	18.0

Source: Ontario Ministry of Training, Colleges and Universities, Student Support Branch as of July 8, 2000.

- The diversity of student profiles in each post-secondary sector is apparent when the number and proportion of OSAP awards by broad student group are shown in Figure 3.7.

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[2] Retrieved from http://angusreid.com/mediacentre/March2,2000

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- The greater proportion of married and sole support students in private vocational schools suggests that the shorter program lengths and flexible delivery schedules are key considerations for this group, despite the higher tuition fees and related costs.

See also Appendices 3.7 outlining college trends related to OSAP.

Ontario Student Opportunity Trust Fund

- Under the Ontario Student Opportunity Trust Fund (OSOTF), each college and university could establish an Ontario Student Opportunity Trust Fund for which the province would match funds from the private sector. The funds provide aid to students in need. The trust funds, with a total value of over $600 million, will provide assistance for up to 185,000 students over a 10 year period.

Tuition-Fee Set Aside

- Universities and colleges that increase tuition are required to set aside 30% of the increased tuition fee revenues to provide aid to students in need. These bursaries are expected to total $126 million system-wide in 1999-2000.

Ontario Graduate Scholarships in Science and Technology (New)

- These scholarship assist up to 500 students a year, in addition to the 1,300 students who annually receive awards from the current Ontario Graduate Scholarship Program.

Aiming for the Top Tuition Scholarships (New)

- The first scholarships will be awarded in September 2000. When the program is fully implemented, $35 million will be invested to assist 10,000 top students to meet their post-secondary expenses. Additional information on this initiative and the Canada Millennium Scholarships are outlined in Section 6.

Local Scholarships, Bursaries and Awards

- Each college has a number of scholarships, bursaries and awards available to students. Information on such awards is available through student services offices at each college.

Access Maintained

Access to college, as measured by the proportion of people going to college, is being maintained despite higher fees. When the higher costs are compared to the economic costs of not going to college, the costs of not going, clearly outweigh the price of attendance, even at the higher tuition levels.

Although participation rates remain high, the impact of increased tuition on attendance by lower income individuals has not been fully studied. A study at the University of Guelph found that in 1987, 40% of students at Guelph came from families making less than $40,000 annually, while 33% of families in Ontario reported making less than $40,000 per year. Ten years later, in 1996, 16% of students at University of Guelph came from families earning less than $40,000, while 23% of Ontario families were below this annual income level in the same period.[3]

Student Debt

Rising tuition fees and other costs have contributed to a significant increase in student debt. So have changes to student aid programs, including switching grant programs to predominantly loan programs and changes to loan repayment schedules, have exacerbated the situation. In 1999, the federal government passed legislation prohibiting individuals with student loans from declaring bankruptcy for 10 years.

Loan Defaults

Loan defaults, or failure of students to pay off their loans as per repayment schedules, represents a significant cost to the Ontario taxpayer because the province guarantees the loans to the banks. A number of steps have been taken to reduce the incidence and cost of loan defaults including:

- providing additional funding to limit student debt including Ontario Student Opportunity Grants, Ontario Student Opportunity Trust Fund, and Aiming for the Top Tuition Scholarships;
- allowing income tax refunds to be accessed to offset amounts owed on defaulted loans;
- sharing the cost of loan defaults with institutions whose students have high default rates;
- using private collection agencies to recover loan defaults. In 1998-99, $21.8 million was collected on outstanding student loans;

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[3] *The Toronto Star*. Thursday, March 23, 2000, p.A8

- utilizing credit screening on new loan applications, to ensure that loans are not issued to individuals with a history of credit abuse; and
- requiring institutions to provide accurate information on default rates, graduation rates, and graduate employment rates by program. Students can then make informed choices.

The 1999 default rates are posted on the OSAP website: http://osap.gov.on.ca and can be accessed from the menu *What's New in OSAP.*

The 1999 default rates reflect the repayment status of students who were issued Ontario Student Loans in the 1996-97 academic year and completed or exited their studies in 1996-97. For the purpose of calculating default rates, student loan recipients/defaulters are assigned to the last institution/program they attended in 1996-97. The status of these loans was assessed as of July 1999 or about two years after entering into repayment. An Ontario Student Loan is in default when the Ontario government has paid a bank's claim for an inactive loan. A loan is inactive when no payment has been made for at least 90 days.

The overall 1999 default rate for Ontario post-secondary institutions is 18.2%, a decrease of 3.9% from the 1998 rate of 22.1%. Colleges dropped from 25.4% to 20.1%, universities dropped from 12.3% to 8.4% and private vocational schools dropped from 34.5% to 31.0%.

Figure 3.8

Default Rates by Post-secondary Sector, 1998 to 1999 Comparison

Sector	1999 Default Rate	1998 Default Rate
Universities	8.4%	12.3%
Colleges	20.1%	25.4%
Private Vocational Schools	31.0%	34.5%
Other Public and Private Institutions (hospital schools, Bible schools)	7.9%	11.8%

Source: Ontario Ministry of Training, Colleges and Universities.
News Release, January 26, 2000 retrieved from http://www.edu.gov.on.ca.

Figure 3.9 compares default rates for 1999 in colleges, universities and private vocational schools against a number of characteristics. Comparing the 1998 default rates with 1999, there are a number of similarities in all sectors.

- Those 25 and over, have higher default rates than those 24 and under
- Males have a higher default rate than females
- Students who withdraw from an institution default much more frequently than those who finish the study period.
- default rates decrease with more terms of interest relief.

Figure 3.9 OSAP Default Rates[1] – 1999 Highlights

CHARACTERISTICS	COLLEGES	UNIVERSITIES	PVS*
Age 24 and Under	19.1%	6.7%	31.2%
25 and Over	21.4%	10.5%	30.9%
Gender Male	24.1%	10.2%	32.1%
Female	16.5%	6.9%	30.3%
Withdrawal Status			
Withdrawal[2]	36.9%	24.6%	48.5%
Non-Withdrawals	17.0%	7.5%	25.1%
Interest Relief Programs[3]			
1 Term	16.3%	8.1%	15.7%
2 Terms	8.1%	4.9%	6.4%
3 Terms	2.5%	2.6%	2.9%

Source: Retrieved from http:// osap.gov.on.ca/not secure/new99.htm

NOTES

1. Number of loans in default as a percentage of loans issued in 1996-97
2. Students reported to OSAP as withdrawing from their program of study prior to the study period end date identified in their 1996-97 OSAP application assessment
3. Includes students who participated in this program for 1 term (6 months) or more from 1996-97 to 1999. While on interest relief, students were exempted from Ontario Student Loan payments and interest did not accumulate on their loan.

Private Vocational Schools

The Ministry of Training, Colleges and Universities will continue to push to reduce default rates as the ministry business plan requires that the overall default rate be reduced to 10% within the next three years.

Post-secondary institutions have an important role to play in reducing student defaults. Improving program quality and relevance, ensuring adequate recruitment, testing and admissions practices, providing support to students to complete their studies and providing assistance with job placement are examples of measures institutions can take to reduce student loan defaults.

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Appendix 3.1

Full-time Post-secondary Enrolment in Ontario Colleges

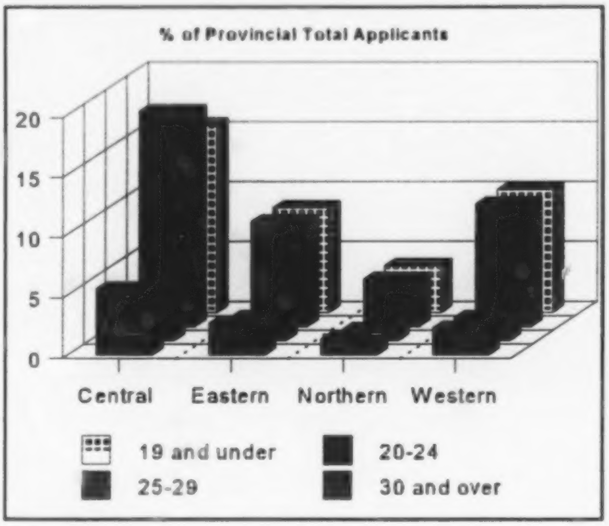
Year	FTPS Enrolment excluding CEIC, and International Students	FTPS Enrolment including CEIC, and International Students
1976	not available	58,757
1977		61,094
1978		64,793
1979		70,508
1980		76,585
1981		81,599
1982		90,692
1983	95,107	97,239
1984	96,855	98,859
1985	94,266	96,269
1986	93,474	95,118
1987	94,911	96,191
1988	94,150	95,051
1989	97,347	98,080
1990	102,998	103,598
1991	113,594	114,398
1992	121,919	122,745
1993	125,238	127,526
1994	129,857	132,071
1995	134,127	135,880
1996	134,409	136,128
1997	135,831	137,844
1998	136,170	138,820
1999	137,342	139,466

Source: 1976 - 1994 enrolment figures from Ontario Ministry of Education and Training *CAAT2 report* (November 1 student count)

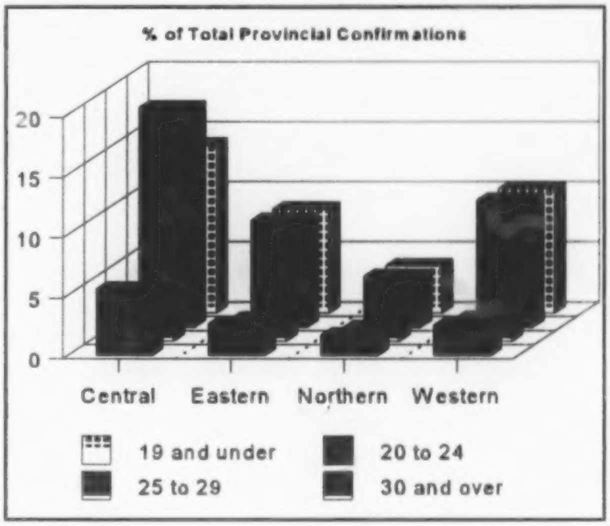
1995 - 1999 enrolment figures from Ontario College Application Service *November 1 survey of colleges*

Appendix 3.2

Applicants/Confirmations by Age and Region
1999



The largest number of applicants to full-time post-secondary programs in the Central region are in the 20-24 age group while in the other regions, applicants under 19 and from the 20-24 age group are relatively the same. In all areas, the largest group of applicants are under age 25 -77% of applicants in Central and Northern regions, 79% in Eastern region and 83% in Western region. The 30 and over age group represents approximately 12% of the applicants in all regions except the Western region where that age group represents only 9%.



The percentage of confirmations from those 19 and under, as compared with those in the 20-24 age group, is similar in Eastern and Western regions. The difference in the numbers who confirm in the 20-24 age group in Central region is even greater than the under 19 group as compared with the acceptances. Also in Northern region a slightly larger number of 20-24 year age group confirm than in the under 19 age group. 47% of applicants in 1999 confirmed.

Total applicants in 1999 was 201,546 with 95,993 confirmations. Central region had 41.9% of total acceptances, Eastern - 21.8%, Northern - 10.95%, and Western - 25.3%

- Northern region includes: Confederation, Sault, Cambrian, Canadore, Northern colleges and Collège Boréal.
- Central region includes: Sheridan, Humber, George Brown, Centennial, Seneca and Georgian colleges and Collège des Grands Lacs
- Eastern region includes: Algonquin, St. Lawrence, Loyalist, Sir Sandford Fleming and Durham colleges and La Cité.
- Western region includes: Mohawk, Niagara, Conestoga, Fanshawe, St. Clair and Lambton colleges.

Source: Ontario College Application Centre

Appendix 3.3

First Year Enrolment Projections for Colleges to 2026

YEAR	18-19 years old	20-24 years old	25-30 years old	31-40 years old	Over 40 years old	Age unknown	Total in college*
1997	25,836	33.778	7,029	4,853	2,106	4194	138,236
1998	27,288	32,537	6,995	4,679	2,043	5373	140,224
1999	30,063	32,563	7,036	4,608	2,194	829	137,342
2000	30,388	32,959	6,996	4,546	2,355		144,981
2001	30,850	33,377	6,974	4,520	2,423		146,668
2002	31,556	33,811	6,955	4,483	2,490	double cohort	148,828
2003	32,245	34,411	6,979	4,429	2,559	5519	157,393
2004	32,814	34,999	7,030	4,356	2,627	12877	167,743
2005	32,920	35,569	7,106	4,278	2,691	12405	168,609
2006	32,877	36,083	7,171	4,221	2,750	10426	167,445
2007	33,429	36,570	7,233	4,192	2,803	3999	162,484
2008	34,639	36,884	7,322	4,185	2,853	858	162,139
2009	35,420	37,347	7,432	4,187	2,904		163,835
2010	35,634	37,930	7,550	4,194	2,955		165,661
2011	35,574	38,497	7,651	4,203	3,005		166,914
2012	35,343	39,126	7,730	4,217	3,051		167,922
2013	35,407	39,680	7,808	4245	3,096		169,364
2014	35,472	39,956	7,899	4284	3,140		170,331
2015	34,317	39,994	8,020	4,329	3,186		168,632
2016	33,108	39,950	8,124	4,373	3,230		166,640
2017	32,499	39,398	8,222	4,418	3,274		164,719
2018	31,757	38,865	8,312	4,461	3,317		162,752
2019	31,501	38,137	8,394	4.504	3,361		161,221
2020	31,373	37,285	8,445	4,554	3,405		159,652
2021	31,328	36,420	8,442	4,610	3,449		158,129
2022	31,322	36,003	8,356	4,663	3,493		157,354
2023	31,358	35,642	8,255	4,718	3,537		156,739
2024	31,432	35,516	8,129	4,760	3,581		156,568
2025	31,539	35,476	7,998	4,795	3,625		156,595
2026	31,679	35,497	7,853	4,825	3,669		156,765

Source: Ontario Ministry of Training, Colleges and Universities, approved by CRALO

Notes:

- * First year total multiplied by 1.776900883 to project total college population and by 0.1% for incremental total enrolment

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increases. 1.776900883 number was chosen because it is the number that the first year student number needs to be multiplied by to get to the overall 1999 enrolment number of 137,342.

Assumptions:

- age breakdown of first year students reflective of all students
- participation rate base accurate when 1999 first year student participation rate used
- the participation rate at the provincial level will increase 0.1% each year regardless of population numbers
- colleges will accommodate participation rate increases and the double cohort.

Appendix 3.4

Multi-year overview of tuition fees

Year	Standard tuition fee per semester ($)	Internat'l tuition fee per semester ($)	Tuition short fee per diem for federal purchase ($)	Part-time, continuing ed. tuition fee per hour ($)	PLA fee2 ($)
1990-91	740	6,160	20.70	1.75	
1991-92	800	6,650	22.35	1.90	
1992-93	856	7,115	23.90	2.05	
1994-95	1,008	8,375	28.15	2.40	55
1995-96	1,109	9,215	31.00	2.65	60
1996-97	1,275	deregulated	35.65	3.04	70
1997-98	1,403	-	39.22	3.35	77
1998-99	1,543	-	43.14	3.68	84.70
1999-2000	1,684	-	47.06	4.02	92.40
2000-01	1,718	-	48.00	4.10	94.25
2001-02	1,751	-	48.94	4.18	96.10
2002-03	1,785	-	49.88	4.26	97.94
2003-04	1,819	-	50.82	4.34	99.79
2004-05	1,852	-	51.77	4.42	101.64

Source: Ontario Ministry of Training, Colleges and Universities, Colleges Branch

NOTE:

1. Beginning in 1997-98, fees listed indicate the maximum average for each category. Prior to 1997-98, these amounts indicate the standard tuition for each category.

2. Fee charged to students wishing to have portfolio, or other experience/learning accessed for credit purposes.

Appendix 3.5

College Tuition Fees, 1999-2000

Province	1990-91 Fees ($)	1999-2000 Fees ($)	Percent. Increase
Ontario	740	1,684	128%
Alberta (average)	573	1,689	195%
British Columbia (average)	1,060	1,750	65%
Manitoba (average)	605	1,432	137%
New Brunswick	500	2,400	380%
Newfoundland	484	1,452	200%
Nova Scotia (average)	766	1,200	57%
Quebec	nil	nil	n/a
Prince Edward Island	1,118	2,000	79%
Saskatchewan	720	2,005	178%

Source: Ontario Ministry of Colleges and Universities, Colleges Branch

Appendix 3.6

COST RECOVERY PROGRAMS - COLLEGES
Preliminary - 2000-01

NOTES:

1. Tuition fees were first deregulated in 1997-98 allowing colleges to charge fees beyond the levels indicated in the tuition fee policy in post diploma programs and other postsecondary programs where there is a demand for spaces, strong employment prospects and high starting salaries up to 15% of enrolments. These additional cost recovery programs are typically more expensive to offer and graduating students are readily able to find good paying jobs
2. All tuition fees listed represent the tuition portion of the annual fee for a standard two-term year.
3. Estimated enrolments in programs with additional cost recovery fees represent less than 2% of total enrolments in at colleges in 2000-01.
4. The following colleges will not charge additional cost recovery fees in 2000-01: Boréal, Durham, George Brown, La Cité, Lambton, Loyalist, Northern, St. Lawrence and Sir Sandford Fleming.

The following information was provided by colleges regarding programs they offer that fall outside the government's tuition fee policy. For further details regarding the programs listed below, the reader may contact individual colleges directly.

COLLEGE	**DETAILS/COMMENTS**	
ALGONQUIN	The college has reported that it will charge additional cost recovery fees for 21 programs in 2000-01	
	Advanced Investigations Architectural Conversation	$2,200.00
	Emergency Response Communicator	$2,500.00
	RPN Operating Room	$2,200.00
	RN Operating Room	$2,500.00
	RN Critical Care	$2,500.00
	RN Emergency Nursing	$2,500.00
	Teachers of ESL	$2,500.00
	Interactive Multi-Media	$2,750.00
	Information Security Systems	$3,200.00
	Business- Marketing 2 year - New students	$3,200.00
	Enterprise Network Specialist	$3,118.00
	Advertising - New students	$3,118.00
	Advertising - Returning students	$2,061.80
	Animation - New students	$2,020.80
	Animation - Returning students	$2,061.80

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ALGONQUIN cont'd	Broadcasting - Television - New students	$2,020.80
	Broadcasting - Television - Returning students	$2,061.80
	Dental Hygiene - New students	$2,020.80
	Dental Hygiene - Returning students	$2,571.00
	Graphic Design - New students	$2,526.00
	Graphic Design - Returning students	$2,061.80
	Massage Therapy - New students	$2,020.80
	Massage Therapy - Returning students	$2,061.80
	Nursing - New students	$2,020.80
	Nursing - Returning students	$2,061.80
	Paramedic - New students	$2,020.80
	Paramedic - Returning students	$2,061.80
	Public Relations - New students	$2,020.80
	Public Relations - Returning students	$2,061.80
BORÉAL	The college has reported that it will not charge additional cost recovery fees in 2000-01	
CAMBRIAN	The college has reported that it will charge additional cost recovery fees for one program in 2000-01	
	Microcomputer Maintenance	$5,000.00
CANADORE	The college has reported that it will charge additional cost recovery fees for five programs in 2000-01	
	Aircraft Maintenance	$1,859.49
	Avionics Maintenance	$1,859.49
	Aircraft Structure Repair	$1,859.49
	Dental Hygiene	$4,998.00
	Alternative Dispute Resolution	$929.75
CENTENNIAL	The college has reported that it will charge additional cost recovery fees for fourteen programs in 2000-01	
	Network Specialist (1 term)	$1,775.00
	Electronic Commerce	$3,272.90
	Marketing Management	$1,950.00
	Corporate Communications	$2,050.00
	Book and Magazine Publishing	$2,050.00
	Advanced Mechanical Product Design/Rapid Prototyping (1 term)	$1,775.00

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CENTENNIALcont'd	Wellness and Lifestyle Management	$1,950.00
	Complementary Care	$1,950.00
	RN - Operating Room (1 term)	$975.00
	RN - Refresher (1 term)	$975.00
	Aviation Maintenance	$2,061.00
	Avionics Maintenance	$2,061.00
	Radio and Television	$1,851.00
	Paramedic	$1,788.00
CONTESTOGA	The college has reported that it will charge additional cost recovery fees for one program in 2000-01	
	System Analyst	$3,264.00
CONFEDERATION	The college has reported that it will charge additional cost recovery fees for thirteen programs in 2000-01	
	Aircraft Maintenance Technician	$1,889.00
	Aviation Manufacturing Technology	$1,975.00
	Dental Assistant	$2,362.00
	Film Production	$1,889.00
	Industrial Maintenance - Multiskilling	$1,889.00
	Industrial Woodworking	$1,889.00
	Medical Radiation Technology - Year 1	$2,496.00
	Medical Radiation Technology - Year 2	$2,441.00
	Motive Power Techniques - Equipment Systems	$1,889.00
	Motive Power Techniques - Heavy Equipment	$1,889.00
	Power Engineering Technician	$1,889.00
	Multi-Media Production	$2,060.00
	Welding	$1,889.00
DURHAM	The college has reported that it will not charge additional cost recovery fees in 2000-01	
FANSHAWE	The college has reported that it will charge additional cost recovery fees for ten programs in 2000-01	
	Broadcast Television - Digital Application	$2,263.70
	Court Administration Tribunal	$2,227.30
	Corporate Communication and Public Relations	$2,227.30
		Continued

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FANSHAWEcont'd	Dental Hygiene	$6,850.00
	Fund Development	$2,227.30
	Journalism - Broadcast	$2,381.50
	Mechanical Technician - Tool and Die Intake	$2,003.00
	Multi-Media Design and Production	$2,288.70
	Organizational Learning and Development	$3,340.95
	Web System Analyst	$2,227.30
GEORGE BROWN	The college has reported that it will not charge additional cost recovery fees in 2000-01	
GEORGIAN	The college has reported that it will charge additional cost recovery fees for nine programs in 2000-01	
	Cyberspace Security	$6,000.00
	Business Administration - Professional Golf Management	$3,267.80
	Research Analyst	$2,525.40
	Web Design and Production	$5,764.00
	Communicative Disorders Assistant	$3,026.40
	Dental Hygiene	$4,775.40
	Dental Assistant (Level I and II)	$2,854.50
	Mechanical Eng. Tech. - Tool and Die	$2,104.50
	Mechanical Eng. Tech. - Tool and Die Fast Track	$4,882.44
GRAND LACS	The college has reported that it will charge additional cost recovery fees forone programs in 2000-01	
	Techniques des Services Policier	$1,804.00
HUMBER	The college has reported that it will charge additional cost recovery fees for thirty three programs in 2000-01.	
	3D for Design and Architectural Professionals	$2,782.88
	Advertising - Media Sales Adv.	$2,782.88
	Broadcasting - Radio	$2,782.88
	Business Development	$2,782.88
	Clinical Research	$2,782.88
	Computer Programmer - Accelerated	$2,782.88
	Cultural Management (pending)	$2,782.88
	Direct Marketing	$2,782.88

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HUMBER cont'd	ECE - Advanced studies	$2,782.88
	Eco an dAdventure Tourism	$2,782.88
	Facility Planning	$2,782.88
	Fundraising and Volunteer Management	$2,782.88
	Graphic Arts - Electronic Publishing	$2,782.88
	Human Resources Management	$2,782.88
	Interactive Multi-Media	$2,782.88
	International Marketing	$2,782.88
	International Project Management	$2,782.88
	Internet Management	$2,782.88
	Journalism - Advanced	$2,782.88
	Journalism - York Advanced	$2,782.88
	Local Area Network - Design and Administration	$2,782.88
	Marketing Management	$2,782.88
	Multi-Media Techniques - Advanced	$2,782.88
	Media Copyrighting	$2,782.88
	Occupational Health and Safety (pending)	$2,782.88
	Package and Graphics Design - Adv.	$2,782.88
	Photography - Advanced	$2,782.88
	Public Administration	$2,782.88
	Public Relations	$2,782.88
	Rec and Leisure Service - Advanced	$2,782.88
	Regulatory Affairs	$2,782.88
	Supply Chain Management	$2,782.88
	Wireless Telecommunications	$2,782.88
LA CITÉ	The college has reported that it will not charge additional cost recovery fees in 2000-01.	
LAMBTON	The college has reported that it will not charge additional cost recovery fees in 2000-01.	
LOYALIST	The college has reported that it will not charge additional cost recovery fees in 2000-01.	
MOHAWK	The college has reported that it will charge additional cost recovery fees for four programs in 2000-01	

Continued

MOHAWK cont'd	Medical Diagnostic Ultrasound - 1 year	$2,833.00
	Instruction for the Blind and Visually Impaired - Orientation and Mobility	$1,889.00
	Instruction for the Blind and Visually Impaired - Rehabilitation	$1,889.00
	Diagnostic Cardiac Sonography	$3,400.00
NIAGARA	The college has reported that it will charge additional cost recovery fees for fourteen programs in 2000-01	
	Computer Network Operations	$2,643.70
	Ecosystems Restoration	$2,643.70
	Geographic Information Systems	$2,643.70
	Interactive Multi-Media	$2,643.70
	International Business Management	$2,643.70
	Microelectronics Manufacturing	$2,643.70
	Public Relations	$2,643.70
	Special Event Management	$2,643.70
	Environmental Management	$2,643.70
	Dental Assistant	$2,554,80
	Dental Hygiene	$4,590.00
	Hotel Management Systems	$2,643.70
	Professional Screenwriting	$2,643.70
	Tourism Development	$2,643.70
NORTHERN	The college has reported that it will not charge additional cost recovery fees in 2000-01	
ST. CLAIR	The college has reported that it will charge additional cost recovery fees for five programs in 2000-01	
	Dental Hygiene	$6,171.00
	Mechanical Engineering Technology - Mold, Tool and Die - Years 1 and 2	$2,021.00
	Mechanical Engineering Technology - Mold, Tool and Die - Year 3	$1,791.00
	Engineering Technology - Years 1 and 2	$2,021.00
	Engineering Technology - Year 3	$1,791.00
	Mechanical Engineering Technology - Auto Product Design - Years 1 and 2	$2,021.00
		Continued

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ST. CLAIRcont'd	Mechanical Engineering Technology - Auto Product Design - Year 3	$1,791.00
	Animation - Tradigital	$3,558.00
ST. LAWRENCE	The college has reported that it will not charge additional cost recovery fees in 2000-01.	
SAULT	The college has reported that it will charge additional cost recovery fees for four post-diploma programs in 2000-01.	
	Graphic Design - Year 1	$2,615.00
	Graphic Design - Years 2 and 3	$1,810.00
	Geographic Info Systems	$4,472.00
	Multi-Media/Web Design	$4,500.00
SENECA	The college has reported that it will charge additional cost recovery fees for fourteen programs in 2000-01.	
	Aviation and Flight Technology	$2,222.00
	Human Resources Management	$2,852.00
	Internet and E-commerce	$2,852.00
	Forensic Accounting	$1,944.00
	Audio Visual and Multi-Media Post Production	$2,222.00
	Broadcast Radio and Television	$2,222.00
	Broadcasting - Radio	$2,222.00
	Broadcasting - Television	$2,222.00
	Graphic Design	$2,222.00
	Creative Advertising	$2,222.00
	Computer Graphics - Technical	$2,222.00
	Illustration - Technical	$2,222.00
	Internet Systems Administration	$5,000.00
	Object-Oriented Programming and Analysis	$5,000.00
SHERIDAN	The college has reported that it will charge additional cost recovery fees for twelve post-diploma and six post-secondary programs in 2000-01	
	Animation Film-making	$10,000.00
	Advanced Television and Film	$7,500.00
	Classical Animation	$6,000.00
	Computer Animation	$11,000.00
		Continued

SHERIDAN cont'd	Computer Animation Technical Director	$11,000.00
	Computer Programmer - Year 1	$2,500.00
	Computer Science Technology	$2,500.00
	Court and Tribunal Agent	$2,000.00
	Digital Media for Architects	$5,000.00
	Enterprise Database Management	$12,500.00
	Environmental Control	$3,500.00
	Graphic Design - Sheridan Only	$5,500.00
	Graphic Design - Sheridan/York	$6,400.00
	Human Resource Management	$3,500.00
	Illustration	$4,500.00
	Interactive Multi-Media	$8,500.00
	International Business	$3,500.00
	IT - Professional Internship	$12,500.00
	IT - Support Services	$2,500.00
	Journalism New Media	$6,500.00
	Logistics	$3,500.00
	Marketing Management	$3,500.00
	Media Arts	$4,500.00
	Montessori Teacher Education	$5,900.00
	Music Theatre - Performance	$4,500.00
	New Media Design (Comp. Graphics)	$5,500.00
	Police Recruit Education	$4,000.00
	Quality Assurance Manufacturing and Management	$4,000.00
	Sports Injury Management - Years 1 and 2	$3,000.00
	Sports Injury Management - Year 3	$2,357.00
	Systems Analyst	$2,500.00
	Telecommunications Management	$5,000.00
	Telecommunications Technology	$3,500.00
S.S. FLEMING	The college has reported that it will charge not additional cost recovery fees in 2000-01	

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Appendix 3.7

Ontario Student Assistance Program - College Trends

1. Levels of Student Assistance and Number of Recipients:

Year	Canada Student Loan (current $)	Ontario Student Loan (current $)	No. of College OSAP Recipients	Total Full-time Postsecondary Enrolment[1]	% of Total
1990-91	65,510,282	9,558,814	42,145	102,998	41%
1991-92	112,686,222	18,753,774	55,271	113,594	49%
1992-93	123,343,781	20,697,160	59,612	121,919	49%
1993-94	187,008,735	151,935,794	64,450	125,238	51%
1994-95	204,453,493	175,897,587	71,595	129,857	55%
1995-96	234,680,293	197,265,690	73,094	134,127	54%
1996-97	260,511,404	241,772,883	72,329	134,409	54%
1997-98	267,928,680	246,830,445	71,884	135,831	53%
1998-99[2]	253,655,820	210,114,562	68,539	136,170	50%
1999-2000[3]	236,765,028	195,673,536	63,767	137,342	45%

Source: Ontario Ministry of Education and Training, Student Support Branch.

Notes:

1. Excludes CEIC, and International Students.

2. As of May 27,2000

3. As of July 8,2000

Appendix 3.7 [cont'd]

2. Number of Awards by Student Group :

Student Group	1994-95	1995-96	1996-97	1997-98	1998-99[1]	1999-00
Dependent at Home	11,185	11,279	12,070	13,505	13,133	12,981
Dependent Away	17,311	16,329	16,625	18,123	18,479	17,884
Independent	27,692	29,333	27,970	24,677	21,147	18,131
Married	6,763	6,886	7,067	6,916	6,993	6,646
Sole Support	8,578	9,227	8,581	8,573	8,690	8,036
Other	31	42	16	91	97	89
TOTAL	71,560	73,096	72,329	71,885	68,539	63,767

3. Average Loan Amount by Student Group 4 :

Student Group	1994-95	1995-96	1996-97	1997-98	1998-99[1]	1999-00
Dependent at Home	$3,155	$3,220	$3,418	$3,168	$3,051	$3,167
Dependent Away	$5,388	$5,472	$5,632	$6,203	$5,802	$5,896
Independent [3]	$5,940	$6,101	$6,358	$6,526	$6,218	$6,222
Married	$6,072	$5,853	$9,804	$10,813	$9,740*	$9,833*
Sole Support	$5,344	$6,062	$14,004	$15,192	$13,371*	$13,335*
Other	$5,203	$5,318	$7,967	$7,048	$6,767	$6,782
Average Loan	$5,312	$5,487	$6,944	$7,161	$6,767	$6,782

Source: Ontario Ministry of Training, Colleges and Universities, Student Support Branch

Notes:

1. **As of May 27, 2000.**
2. **As of July 8, 2000.**
3. **Includes students who qualify as independent students under the Canada Student Loans Program and dependent students under the Ontario Student Loans Program.**
4. **Canada Students Loans and Ontario Students loans divided by the number of awards. Students may receive an Ontario Student Opportunity Grant equal to the portion of a loan that exceeds $7000.**

* **Does not include the value of Canada Study Grants for students with dependents, which were introduced in 1998-99.**

SECTION 4

FINANCE

Funding
Transfer Payment/Operating Grant
Training
Capital Funding
Expenditures

FINANCE

Among the many opportunities and challenges of the new decade, funding will continue to be one of the major challenges for Ontario's colleges of applied arts and technology. It could also be a source of significant opportunity, particularly if the government moves forward with a new charter for the college system.

In this section, the various sources of funding will be reviewed along with a look at how the colleges spend their revenue.

Funding – Post-secondary Transfer Payments/ Operating Grants

In March 2000, the Minister of Training, Colleges and Universities announced that the total operating grant in 2000-01 would be $705,209,500, up $12,460,000 from the 1999-2000 allocation. In addition, a total of $17,069,512 would be provided from the Access to Opportunities Program. The one-year funding announcement provides a challenge for colleges in terms of long-range planning.

Included in the funding was $7 million in new funding for enrolment growth to ensure that colleges are able to accommodate all willing and qualified students in September 2000.

Components	**1999-2000 Budget**	**2000-01 Budget**	**Percent. Change**
General Purpose Grant	$625,091,106	$632,091,106	1%
Special Purpose Grant	$67,658,394	$59,118,394	-12.6%
Performance Funding	n/a	$14,000,000	n/a
Total Transfer Payment	**$692,749,500**	**$705,209,500**	**1.8%**
Access to Opportunities Program	$35,798,131 includes $22.6 million in start-up costs which ended in this year.	$17,069,512	29% for operating costs

Source: Ministry of Training, Colleges and Universities

Figure 4.1
Transfer Payment Comparisons 1999-2000 and 2000-01

Performance Funding

The minister also announced that $14 million (or 2%) of the college operating grant was being allocated for performance funding, with $7 million in new funds being provided and $7 million being reallocated from Special Purpose Grants that had reached their planned expiry date.

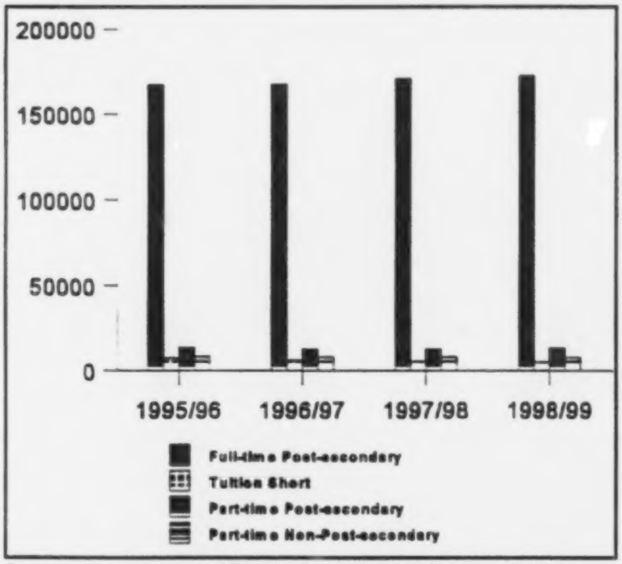
Three Key Performance Indicators are being used to calculate performance funding: graduate employment, graduate satisfaction and employer satisfaction. The colleges were divided into three groups based on the key performance indicator results and the funding was divided between the top two groups, with the top group receiving twice as much funding as the middle group based on percentage of activity base from total activity base for the top 2/3 of colleges. Each indicator was evaluated separately, so most colleges received some performance funding.

The intent is to increase the performance funding to 4% in 2001-02 and 6% the following year.

Further information on Key Performance Indicators is available at http://acaato.on.ca/kpi/.

See also Appendix 4.1 *General Purpose Operating Grants vs Total Operating Grants to Colleges* at the end of the section for historical information on operating grants.

Activity Funded by the General Purpose Operating Grant



Source: Ontario Ministry of Training Colleges and Universities, Colleges Branch

Figure 4.2
Funding Unit of Activity by Program Type

Although not all activity within colleges is supported by the general purpose operating grant, it still represents the major source of funding for college programming. The activity in colleges, as measured by funding units, serves as the basis for determining the distribution of the funding grant. Figure 4.2 outlines funding units of activity by program type.

Full-time post-secondary programming represents the bulk of college activity funded by the general purpose operating grant at 87.4% in 1998-99. It is interesting to note that in 1990-91 full-time post-secondary accounted for 81.9% of funding units generated that year.

Full-time tuition short programs represent 2.4% of funding unit activity in 1998-99 as compared with 5.1% in 1990-91. A decrease in federal seat purchases is largely responsible for this drop.

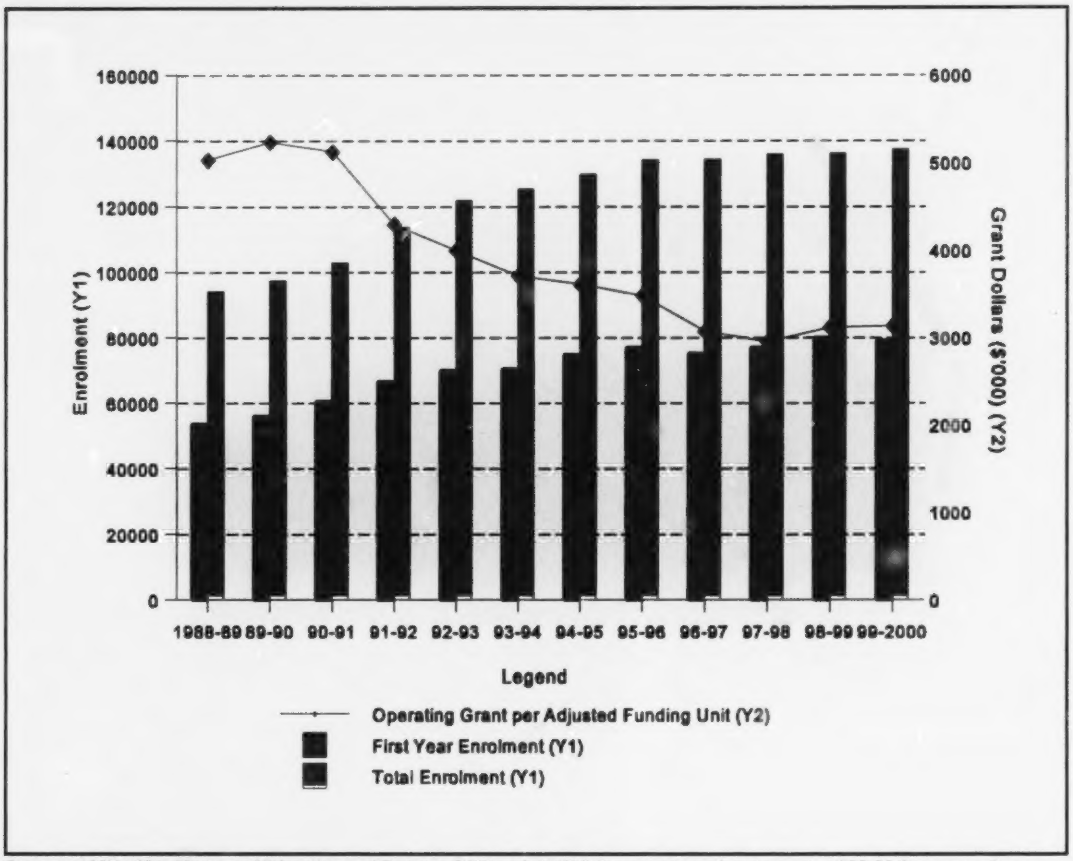
The part-time post-secondary programs include mandatory post-secondary courses, post-secondary electives, and post-diploma health programs and represents 6.8% of funding units in 1998-99 as compared with 7.3% in 1990-91.

Part-time non-post-secondary activity includes basic communication and numeracy skills, occupational certification, prior learning assessments, Ontario Management Development Program (OMDP), miscellaneous tuition short courses and other vocational courses. In 1998-99, it represented 3.9% of the funded activity, compared with 5.5% in 1990-91.

A more detailed chart is presented in Appendix 4.2 at the end of the section.

Operating Grants Per Full-time College Student

College activity has continued to grow through the last decade but government funding did not keep pace with the growth. As a result, the operating grant per weighted funding unit has decreased significantly – down 42% from $5,234 to approximately $2,950 in 1997-98. It has risen slowly in the past few years, up to $3,133 in 1999-2000. It is projected to rise again in 2000-01.



Source: 1987-1994, Ministry of Education and Training OCIS and CAAT 2 Surveys November 1 count. 1995-99 figures are from Ontario College Application Centre enrolment counts.

Figure 4.3
Full-time Post-secondary Enrolment & The General Purpose Operating Grant

The continuing increase in enrolment in colleges, despite the decrease in funding dollars, has been beneficial to the increasing number of Ontario residents seeking access to further education and training. But it has caused significant strain within the college system. There is much competition for available dollars and colleges have been forced to look elsewhere to find the necessary funds for program delivery.

See also Appendix 4.3 for the numerical table from which the above graph was developed.

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College System Revenue

The table below shows the sources of the colleges' revenue and how the revenue sources have changed over time.

Figure 4.4
College System Revenue

REVENUE SOURCE	1993-94 millions	1994-95 millions	1995-96 millions	1996-97 millions	1997-98 millions	1998-99 Millions
General Purpose Operating Grant	708.3	696.9	691.7	597.6	591.7	616.6
Skills Training: Federal	95.1	95.5	79.3	57.0	57.7	89.6
Skills Training: MTCU	167.9	185.7	169.3	108.8	70.6	74.4
Skills Training: Other Contracts	117	122.6	114.0	96.5	101.0	13.4
Specific Purpose Operating Grant	112.7	101	110.5	87.1	81.0	82.2
Capital Grants	59	29.8	84.1	29.0	46.2	6.2
Tuition Fees	231.3	245	275.2	309.3	347.6	387.4
Ancillary Income	126.4	129	132.6	124.1	133.4	145.6
Other Income	68.5	78.9	76.5	80.0	105.9	212.7
TOTAL:*	**1,686.2**	**1,684.4**	**1,733.2**	**1,489.4**	**1,535.1**	**1,628.0**

Source: Ontario Ministry of Training, Colleges and Universities, College Financial Information Systems, Summary Report, August 2000.

Notes: Due to differing accounting and reporting methodologies used, CFIS revenues ascribed to an identified funding agency or source may not reconcile precisely with the accounts of the agency and source for a given year.

* Total Revenue is taken directly from CFIS reports. Revenue Sources may not add up due to rounding.

All government sources of revenue at both the federal and provincial levels have decreased over a number of years as the first six rows above indicate.

Tuition fees, ancillary income and other income have all increased in an effort to offset the decline in government funding. Tuition fees paid by students accounted for about 25% of total income in 1993-94 and 45.8% in 1998-99. From 1993-94 to 1998-99, fees represented an increase of more than 50% in additional revenue. Other income, including donations from the private sector, has increased by an even greater amount.

Funding – Training

With the reduction in government funding for training activities, as shown above, colleges struggle to meet the growing demand and need for job-oriented training.

Apprenticeship combines on-the-job training (75-90% of total) with classroom training (10-25%) in skilled trades and occupations. In 1999-2000, the Ministry of Training, Colleges and Universities provided $46.2 million to serve 51,000 active apprentices and 29,000 employers. For 2000-01, the government has committed $48 million. In the 2000 Ontario Budget, $15 million was announced for investment over three years in the Apprenticeship Innovation Fund, to modernize classroom training and introduce new trades.

Appendix 4.4 *Apprenticeship in Ontario* shows the number of training days purchased through the college system and through other trainers. Colleges continue to be the major provider of apprenticeship in the province. Part-time delivery of the in-school portion of apprenticeship continues to grow in popularity.

Appendix 4.5 shows the breakdown of apprentices by sector and gender.

Changes to the apprenticeship act will be outlined in Section 6 on Public Policy.

The Ministry of Training, Colleges and Universities, Training Division also provides:

- literacy and basic skills training primarily to unemployed adults with $62.4 million for 55,000 people at over 300 sites, including colleges, in 1999-2000. Approximately the same amount will be available in 2000-01.

- an adjustment advisory program serving 27,000 clients for 1999-2000 with a budget of $3.5 million to help firms, workers and communities adjust to real or threatened job loss.

- $1.4 million was also available in 1999-2000 to provide assistance to industry sectors and organizations for the development of training programs, standards, and materials to address skill gaps.

- assistance to unemployed, out-of-school youth, ages 15-24, through Job Connect which contracts with colleges and non-profit organizations to provide job orientation training and/or on-the-job training for approximately 120,000 clients at a cost of $111 million in 1999-2000. In 2000-01, $108.5 will be available, as well as $50.8 for Ontario Summer Jobs Program.

The province continues to negotiate with the federal government to finalize a *Canada-Ontario Labour Market Development Agreement (LMDA)*, but there has been limited progress in the past year. In the absence of such an agreement, the province negotiates a yearly Contribution

Agreement. Under this agreement, the federal government will transfer up to $50 million in 2000-01 to cover the costs of training E.I. recipients in colleges. Annual negotiations hamper colleges in planning for needs and changing requirements.

Other Funding

The **Strategic Skills Investment** initiative was announced in the 1998 Budget as a one-year $30 million initiative. The 1999 budget announced a multi-year extension and added an additional $100 million. The focus is on creating strategic skills essential for building business competitiveness and increasing the responsiveness of Ontario's training institutions to business needs.

Investment in Strategic Skills to-date is $180 million for 28 new training projects and $135 million leveraged from project partners in business and education. Business sectors extend from photonics to heavy equipment. Over 300 companies and 85 business associations and organizations are involved. Some 54 colleges, universities and other public and private sector training providers are participating. Clients of the approved training include young people preparing to enter the full-time workforce, experienced workers seeking to expand their skills and unemployed or under-employed people reorienting their skills to qualify for good jobs in fast growing sectors.

In April 2000, the government announced $14.5 million for seven projects in the third round of this program. Colleges are the project lead in six of the seven projects, with an approximate value of $12.2 million. Colleges have been awarded, either directly or in a partnership arrangement, approximately 85% of the projects.

Capital Funding – SuperBuild

SuperBuild is a major initiative of the government to "build and modernize colleges and universities for future demands", as well as to renew other infrastructure, such as highways. SuperBuild projects were announced in two phases in February ($660 million) and in May/June 2000 ($231 million). Twenty-three colleges and 17 universities received funding with significant investment from a multitude of partners in the private sector.

Projects	Number	%	New Student Spaces	%	SuperBuild Awards ($millions)	%
College	25	42.4	29,564	40.1	292.98	32.9
University	25	42.4	33,601	45.6	453.46	50.9
Joint	9	15.3	10,551	14.3	144.93	16.3
Total	59		73,716		891.37	

Figure 4.5
Summary of SuperBuild Initiatives

Colleges and universities were funded for the same number of projects – with university projects providing 4.5% more student spaces and receiving 18% more in funding. The projects encompass programs and initiatives in manufacturing, information technology, technology enhanced learning, health sciences, business and the arts. Several joint projects support joint diploma/degree offerings and centres for technology enhanced learning. The initiatives include construction of new buildings for specific purposes and renovations and retrofitting of existing buildings to accommodate new and existing programs and activities. A complete list of all projects is found in Appendix 4.6 at the end of the section.

Other Capital Projects

Funds for the facilities renewal and modernization program were distributed by the traditional formula, approximately 1/3 for colleges and 2/3 for universities. All colleges received funding based on their percentage of total college system enrolment. Between February and May 2000, a total of $157.5 million was announced, of which $55 million is one-time modernization funding, distributed based on the institution's share of all post-secondary enrolment. In addition, $19.5 was allocated for completion of previously approved projects.

Expenditures

An overview of the college system revenue and expenditures for 1998-99 is presented in Figure 4.6. Salaries continue to be the largest expenditure item.

Figure 4.6 College System Revenue & Expenditures 1998-99

Item	Revenue	Expenditures
General Purpose Operating Grant	$616,632,481	
Adult Training: Federal	$89,584,206	
Adult Training: MTCU	$74,378,336	
Adult Training: Other Contracts	$13,368,519	
Tuition Fees	$387,447,399	
Total "Teaching Related" Revenue	**$1,181,410,941**	
Academic Salaries & Benefits (FT & Other)		$548,908,624
% of Teaching Related Revenue		46.46%
Support Salaries & Benefits (FT & Other)*		$267,434,256
% of Teaching Related Revenue		22.64%
Admin. Salaries & Benefits (FT) *		$117,375,032
% of Teaching Related Revenue		9.94%
Specific Purpose Operating Grants	$82,178,083	
Capital Grants	$6,187,781	
Ancillary Income	$145,609,476	
Other Income	$212,650,603	
Total "Infrastructure" Revenue	**$446,625,943**	
Non-Labour Operating Costs		$518,128,515
Non-Labour Capital Costs		$44,330,465
Remaining Support Salaries & Benefits		$21,780,883
Remaining Admin. Salaries & Benefits		$6,497,781
Student Stipends & Allowances		$28,258,596
Totals:	**$1,628,036,884**	**$1,552,714,152**

Source Ontario Ministry of Training, Colleges and Universities. *College Financial Information System, 1998-99 Report.* August 2000
Notes * calculated as total support or admin. salaries and benefits, less that which was unallocated to the teaching function.

Academic salaries and benefits as a percentage of total "teaching related" revenue have declined from 50.27% in 1996-97 to 47.74% in 1997-98 but have increased to 52% in 1998-99. Support staff costs have gone up from 22.67% in 1996-97 to 23.58% and 22.09% in 1998-99. A further breakdown of compensation costs and non-labour costs are presented in Figures 4.7 and 4.8

Figure 4.7 Staff Compensation Costs – 1998-99

Full-time Employees:		
Academic Staff	**$357,897,701**	**Full-time salaries**
	3,744,731	**Co-ordinators**
	3,149,307	**Overtime**
	3,030,521	**Professional development leave**
	9,272,640	**Termination gratuities**
	62,819,257	**Benefits and pensions**
	$439,914,157	
Support Staff	**$183,282,653**	**Full-time salaries**
	3,197,772	**Overtime**
	231,240	**Professional development leave**
	188,092	**Termination gratuities**
	42,367,386	**Benefits and pensions**
	$229,035,903	
Administrative Staff	**$106,318,612**	**Full-time salaries**
	44,304	**Professional development leave**
	214,652	**Termination gratuities**
	17,295,245	**Benefits and pensions**
	$123,872,813	
Part-time Employees:		
Academic Staff	**$22,389,509**	**Sessional salaries**
	21,988,676	**Partial load salaries**
	55,434,663	**Part-time hourly salaries**
	9,181,619	**Benefits and pensions**
	$108,994,467	
Support Staff	**$56,744,476**	**Salaries**
Other	**$6,557,897**	**Salaries**
	24,055,076	**Allowances and benefits**
	3,203,520	**Special support allowance**
TOTAL COMPENSATION	**$992,378,309**	

Source: Ontario Ministry of Training, Colleges and Universities, *College Financial Information System, 1998-99 Report.* August 2000

Figure 4.8

Changes to Non-Labour Costs 1997-98 to 1998-99

Operating

Type of Costs	Expenditures 1997-99 ($)	Expenditures 1998-99 ($)	% Change
Instructional Supplies	44,401,015	47,140,892	6
$6,497,781 $6,497,781 Field Work	1,888,691	2,214,546	17
Memberships & Dues	2,274,892	2,279,502	0
Staff Employment	609,303	1,024,502	68
Professional Development	4,103,521	4,595,126	11
Travel	14,997,453	14,701,831	(2)
Promotion / Public Relations	18,084,626	21,812,879	21
Maintenance, Supplies & Vehicles	81,433,264	90,119,459	11
Telecommunications	13,645,244	12,513,435	(8)
Insurance	4,987,160	5,062,341	2
Audit & Professional Fees	13,737,390	12,496,080	(9)
Contracting (various)	75,069,686	74,679,040	(1)
Electricity, Fossil Fuels, Water, Refuse	28,594,397	29,076,697	2
Taxes & Bank Charges	14,221,538	29,002,111	104
Cost of Goods Sold - Anc. Op.	47,889,347	51,574,583	8
Scholarships, Bursaries, Awards	8,896,288	10,090,861	13
Student Assistance from Tuition	8,086,424	16,053,451	99
Depreciation Expense	82,277,493	86,593,578	5
Miscellaneous	8,514,949	12,159,937	43
Total Operating Costs:	473,712,681	**523,192,849**	**10**

Figure 4.8
Changes to Non-Labour Costs 1997-98 to 1998-99 continued

Capital

Type of Costs	Expenditures 1997-98 ($)	Expenditures 1998-99 ($)	Change (%)
Rental - furniture & equipment	10,610,614	11,063,818	4.3%
Purchase - furniture & equipment	6,039,559	6,464,061	7.0%
Premise Rental	14,293,336	13,347,069	-6.6%
*Building, site and leasehold improvements***	n/a	2,545,145	n/a
*Premise maintenance, and equipment purchases that are not capitalized***	3,551,941	4,759,577	34.0%
Long-Term Debt Interest	6,058,092	6.050,795	>-1%
Total Capital Costs:	**40,553,572**	**44,330,465**	**9.3%**

Source: Ontario Ministry of Training, Colleges and Universities. *College Financial Information System, 1998-99 Report.* August 2000

** Effective April 1, 1997, based on the Canadian Institute for Chartered Accountants' new accounting recommendations for not-for-profit organizations, capital assets are no longer expensed as acquired, but are now depreciated over their useful life.

Appendix 4.1

General Purpose Operating Grant
VS
Total Operating Grants to Colleges

YEAR	General Purpose Operating Grant (GPOG)	Total Operating Grants (TOG)	GPOG as a Percentage of TOG
1987-88	586,836,175	625,600,000	93.8%
1988-89	613,243,803	661,700,000	92.7%
1989-90	645,773,556	700,400,000	92.2%
1990-91	685,039,064	771,500,000	88.8%
1991-92	723,192,315	826,900,000	87.5%
1992-93	739,947,106	868,400,000	85.2%
1993-94	700,747,370	808,200,000	86.7%
1994-95	690,747,370	807,900,000	85.5%
1995-96	684,961,891	809,200,000	84.6%
1996-97	597,621,175	688,781,299	86.8%
1997-98	581,595,887	686,461,500	84.7%
1998-99	612,153,320	692,586,500	88.4%
1999-2000	625,091,106	692,049,500	90.3%
2000-01	632,091,106	705,209,500	89.6%

Source: Ontario Ministry of Training, Colleges and Universities, Colleges Branch

Note: The GPOG for 1993-94 through 1995-96 was reduced by $40 million to reflect the social contract.

Appendix 4.2

Activity Base Funded by the General Purpose Operating Grant

YEAR	Activity Base (converted to Funding Units)							
	Full-Time Post-secondary	Index of Activity (1986-87=100)	Full-Time Tuition Short	Index of Activity (1986-87=100)	Part-Time Post-secondary	Index of Activity (1986-87=100)	Part-Time Non-Post-secondary	Index of Activity (1986-87=100)
1986-87	100,830.8	100.0%	5,295.5	100.0%	8,935.2	100.0%	5,896.9	100.0%
1988-89	100,030.4	99.2%	5,879.8	111.0%	9,336.2	104.5%	6,681.1	113.3%
1989-90	102,215.8	101.4%	5,638.5	106.5%	8,827.7	98.8%	6,703.2	113.7%
1990-91	109,554	108.7%	6,922.2	130.7%	9,827.8	110.0%	7,369.1	125.0%
1991-92	141,657.5	140.5%	8,087.9	152.7%	10,969.5	122.8%	7,642.4	129.6%
1992-93	151,589.1	150.3%	8,528.6	161.1%	15,100.3	169.0%	9,790.6	166.0%
1993-94	156,745.3	155.5%	8,322.9	157.2%	14,632.5	163.8%	9,231.5	156.5%
1994-95	161,087.1	159.8%	7,920.3	149.6%	13,761.3	154.0%	8,435.7	143.1%
1995-96	169,269.6	167.9%	7,344.5	138.7%	13,455.1	150.6%	8,618.0	146.1%
1996-97	167,756.3	166.7%	6,020.8	113.7%	12,579.8	140.8%	8,030.6	136.2%
1997-98	171,072.4	169.9%	5,627.1	106.3%	12,278.7	137.4%	8,010.9	135.8%
1998-99	172,587.4	171.2%	4,775.8	90.2%	13,253.6	148.3%	7,666.4	130.0%

Part-Time Post-secondary includes:
- Mandatory Post-secondary
- Post-secondary Electives
- Post-diploma Health

Part-Time Non-Post-secondary includes:
- Basic Communication and Numeric Skills
- Occupational Certification
- Prior Learning Assessment (as of 1993-94)
- Ontario Management Development Program (OMDP)
- Miscellaneous
- Tuition Short Courses
- Other Vocational

Note: New program weights for full-time post-secondary introduced 1991-92. New part-time conversion formula introduced effective 1992-93.

Source: Ontario Ministry of Training, Colleges and Universities, Colleges Branch

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Appendix 4.3

General Purpose Operating Grants

Fiscal Year	**Activity Base1** (Weighted Funding Units supported by grant)	**General Purpose Operating Grant2**	**Grant per Weighted Funding Unit3**
1989-90	123,385.2	645,773,556	$5,234
1990-91	133,673.1	685,039,064	$5,125
1991-92 4	168,357.3	723,192,315	$4,296
1992-93	185,008.6	739,947,106	$4,000
1993-94	188,932.2	700,747,370	$3,709
1994-95	191,204.4	690,747,370	$3,613
1995-96	196,667.8	684,961,891	$3,483
1996-97	194,537.8	597,621,175	$3,072
1997-98	197,157.8	581,595,887	$2,950
1998-99	196,671.4	612,153,320	$3,113
Projected			
1999-2000 5	199,497.4	625,091,106	$3,133
2000-01 6	199,497.4	632,091,106	$3,168

Source: Ontario Ministry of Training, Colleges and Universities, Colleges Branch.

Notes

1. Derived from annual audit of enrolment report. The number shown represents the reported weighted funding units for the activity year, not the two or three year historical average used in the actual grant calculation
2. Does not include special purpose grants. General Purpose Grant allocation for 1993-94 to 1995-96 was reduced by $40 million to reflect the impact of the Social Contract reduction. GPOG allocation for 1997-98 does not include the amount set aside for the Strategic Programs Investment Fund or Common Information Systems. In 1998-99, the GPOG allocation does not include the set-aside for ministry initiatives.
3. Not adjusted for inflation or to reflect the additional impact of geographic and economy of scale adjustments included in the annual grant calculation.
4. 1991-92 first activity year with new program weights. Introduction caused an inflation in the number of weighted funding units.
5. Estimate derived by increasing the 1998-99 activity base (weighted funding units supported by the grant) by the percentage increase in enrolment reported in the November 1999 and March 2000 enrolment reports by OCAS.
6. Assumes flat line enrolment.

Appendix 4.4

Apprenticeship Training in Ontario

Training Days Purchased

YEAR	CAATs		NON-CAAT TRAINERS		TOTAL
	Full-Time	Part-Time	Full-Time	Part-Time	
1988-89	789,462	116,833	1,560	0	907,855
1989-90	777,991	122,407	7,560	589	908,547
1990-91	972,237	123,363	15,033	2,140	1,112,773
1991-92	977,053	107,480	24,643	2,179	1,111,355
1992-93	834,143	100,129	33,878	2,187	970,337
1993-94	723,770	81,867	33,088	411	839,136
1994-95	661,217	100,098	34,432	60	795,807
1995-96	627,385	134,117	26,442	449	788,393
1996-97	517,493	139,859	27,135	1,273	685,760
1997-98	488,503	187,980	39,131	1,858	717,472
1998-99	494,763	228,634	51,026	1,367	775,790
1999-2000	464,759	247,234	50,216	711	762,920

Planned

2000-01	499,277	322,410	69,358	995	894,040

Source: 1989-1992 - Ontario Ministry of Skills Development, Apprenticeship and Client Services
1993-1998 - Ontario Ministry of Education and Training, Workplace Support Services
1998-2001 - Ontario Ministry of Training, Colleges and Universities

Appendix 4.5

Apprenticeship In-school 1999-00 By Sector Actual Training Days

SECTOR	COLLEGE		NON-COLLEGE		TOTAL	
	Full-Time	Part-Time	Full-Time	Part-Time	Full-Time	Part-Time
Construction	199,564	20,400	32,744	200	232,308	20,600
Industrial	42,621	110,646	0	203	42,621	110,849
Motive Power	163,820	53,214	0	0	163,820	53,214
Service	43,787	13,843	4,200	308	47,987	14,151
Other	14,967	49,131	13,272	0	28,239	49,131
Total	464,759	247,234	50,216	711	514,975	247,945

Active Apprentices by Sector
August 1, 2000

SECTOR	MALE	FEMALE	TOTAL
Construction	15,748	264	16,012
Industrial	8,904	188	9,092
Motive Power	10,829	165	10,944
Service	2,910	3,867	6,777
Other	4,448	1,088	5,536
Sub-Total	42,839	5,572	48, 411

Source: Ontario Ministry of Training, Colleges and Universities, Training Division, August 2000.

Appendix 4.6

Strategic Skills Investment Program

Institutions	Program Description	Participants
Advanced Technology Education Consortium (Queen's Univ.)	@TEC Microelectronics Design Centre	Adds 40 students per year
Ontario Aerospace Council	Aerospace Industry Training Program - development of advanced manufacturing program for aerospace manufacturing employees to ensure skills portability and employee flexibility in adapting to new technolodies	3,000 aerospace employees per year
University of Guelph and Seneca College	Bachelor of Science in Technology in Applied Pharmaceutical Chemistry, Physics and Technology - joint university-college program	Enrol 40 students per year
George Brown College	Centre for Advanced Microelectronics Technology - development of new program to provide entry-level training and lifelong learning opportunities in microelectronics	300 full-time enrolment and another 3,000 trainees through part-time and distance learning annually
Georgian College and Industrial Research and Development Institute	Centre for Automotive Parts Expertise to meet the needs of the automotive parts industry	Increases co-op students in Mechanical Engineering Technician and Technology programs by 140 and advanced design students by 225
Centennial College	Centre for Engineering Design and Rapid Manufacturing to increase skills in machining, rapid and virtual prototyping, CAD/CAM and tool and die	Increases the number of technicians and technologists by 200 annually.
College Boreal	Centre for Excellence in Forestry of Northern Ontario to meet demand for specialized forestry related training	Increases enrolment by about 90 full- and part-time annually

Niagara College	Centre for Integrated Manufacturing Training and Applied Research - provides engineering and manufacturing technology, specialized apprenticeship training and customized skills upgrading	Increases enrolment by about 350 annually
Mohawk College	Centre for Rapid-Text Reporting - rapid-text skills in business, legal, medical and education environments and captioning for hearing impaired for broadcast	
Fanshawe College	High demand skills in Millwright and Tool and Die Technology	Increases annual number of millwrights by 18 and tool and die by 25
Confederation College	Institute for Global Entrepreneurship and Electronic Commerce - focus on needs of small to medium-sized businesses for "new economy" skills	40 additional students full-time and another 1,000 enrolled part-time and through the Internet
Conestoga College	Metal Machining, Automated Manufacturing Engineering and Information Technology	500 additional students annually
Canadian Foundry Association	Modern Foundry Technologies Institute focus on upgrading needs of metal-casting industry	180 students annually
Canadian Film Centre	New Media Program - increases number of advanced training spaces in new media design and digital media industry.	
Vitesse (Re-Skilling) Canada	O-Vitesse: Ontario Venture in Training Engineers and Scientists for Software Engineering expands the initiative from Ottawa-Carleton area across the province to train unemployed and under-employed for jobs in information technology and telecommunications.	
Council of Ontario Construction Associations	Ontario Construction Management Skills Program - provides standardized programs and certification across the province in the construction industry	300 employees annually
Alfred College/University of Guelph	Ontario Rural Wastewater Centre - training and research in rural waste water management	600 students annually

Ottawa Centre for Research and Innovation (OCRI)	Upgrade unemployed and under-employed immigrants with science and electrical engineering degrees	
Canadian Sheet Steel Building Institute	Steel Framing for Residential and Light Commercial Construction - establish provincial standards and programming for steel framing	Over 1,000 students will be trained as part of apprenticeship and Technician/technologist programs
Canadian Steel Trade Employment Congress (CSTEC)	Steel Industry Training program - New Service Development - adaptation of programs to address technological advances and restructuring in the steel industry	4,000 participants annually
Humber College	Telecommunications Learning Institute - establish a certified and interactive lifelong learning program for telecommunications workforce	Initial enrolment of 5,000
Photonics Research Ontario, Algonquin and Niagara Colleges	Photonics Education and Training - development and delivery of technician/technologist level program and lifelong learning opportunities	Graduate 115 technicians and technologists by 2004 and provide courses for an additional 3,550 others.
La Cité collégiale	Interactive Call Centre - development of bilingual call centre training	2,500 trainees by 2003
Fanshawe College	Transportation Technology	Increase graduates in Motive Power Diesel Diploma program from 20 to 40 and in Truck/Coach apprenticeship from 20 to 70
Conestoga College	Information Technology Training Centre - Advanced Manufacturing and Information Technology certificate and diploma programs	4,600 students over the next four years

Centennial College	Centre for Aerospace Training and Education - full range of programs at post-secondary, apprenticeship and secondary school co-op levels including basic electronics, maintenance, avionics, flight simulation, sophisticated aircraft systems, and composite fabrication and repair	Double capacity in aerospace training over four-year period.
Operating Engineers Training Institute of Ontario	Heavy Equipment and Craning - addressing need for qualified operators in the heavy equipment and craning industry	250 qualified personnel annually
Northern College	Forestry Industry Training	

Source: Ontario Ministry of Economic Development and Trade

Appendix 4.7

SuperBuild Projects

Individual Colleges

Institutions	Project Title	Student Spaces	SuperBuild Award ($ Millions)
Algonquin	Advanced Technology Centre	0	10
Cambrian	Cambrian Transformation 2000: Quality and Accessibility Initiative	1,240	14.8
Canadore	Hospitality, Tourism & Ecotourism Management Development Centre and Expansion of Aviation and Aerospace Program	9,765	1.8 8.6
Centennial	Advanced Technology Institute	4,480	37.8
Conestoga	Expansion of Training & Education Capacity	1,430	14.2
Confederation	Expanded Aviation Training Facility	74	3.9
Durham	Manufacturing and IT Centre & College/University Centre Expansion	3,009	28.8
Fanshawe	London Campus Capacity Expansion	2,000	27.5
George Brown	"Building our Future" Capital Project	1,800	15.5
Georgian	Centre for Technology Enhanced Learning	1,594	9.8
Humber	Lakeshore Campus Development	1,600	17.8
La Cité	Media Centre	265	4
Lambton	Renovation and Addition of Classroom and Computer Labs	250	2.9
Loyalist	High tech Access Centre	316	4
Mohawk	Centre for Excellence – Information Technology	1,526	8.5
Niagara	Hospitality and Tourism Expansion	375	4.3
Northern	Veterinary Technician Program Expansion	40	0.06
St Clair	Centre for Excellence in Manufacturing	1,296	10.9
St Lawrence	Learning Commons for the 21st Century	1,560	16.2
Sault	Distributed Learning, Computer Technologies and Health Sciences	300	3.4
Seneca	Newnham Campus– Expansion/redevelopment	2,050	10.4
Sheridan	Theatre & Interdisciplinary Gerontology and Expansion of Centre for Animation and Emerging Technologies	400,400	3.1 7.2
Sir Sandford Fleming	SSF College's Capacity Building	3,000	27.5
Total		**29,167**	**292.9**

Individual Universities

Institutions	Project Title	Student Spaces	SuperBuild Award ($ Millions)
Algoma	New Learning Pavillion	40	0.7
Brock	New Academic Complex	1,700	15.6
Carleton	Expansion and Renovation of Labs and Classroom Facilities	4,400	28.7
Guelph	Advanced Learning and Training Centre	3,608	45
Hearst	Campus Expansion and Modernization	30	0.1
Lakehead	Advanced Technology and Academic Centre	1,377	13.4
Laurentian	The Brenda Wallace Reading Room and Computer Centre	75	0.6
McMaster	Business and Arts Expansion Project and Science, Health Science and Engineering Rehabilitation	11,461,653	4. 18.5
Nipissing	Academic Expansion	500	11.2
Ont College of Art and Design	New Centre for Design and Retrofit of existing buildings	500	24
Ottawa	Oversizing of Site (School of information Technology and Engineering Building) and Health Sciences Addition and Conversion of Space	980,200	4.5 2.6
Queens	New Chemistry Building &School of Business Renovation and Integrated Learning Centre	1,250,400	40.0 10.8
Ryerson	Centre for Graphic Communications Management Centre for Computing and Engineering	4,002,400	4.15 31.5
Toronto	Health Science Complex and Centre for Information Technology	5,681,100	28.8 24.03
Trent	Faculty of Arts and Science Academic Facilities	1,080	26.2
Waterloo	Multi-facility Expansion	2,600	31.2
Western	Classroom Renovations	3,400	40.5
Wilfred Laurier	Northwest Campus Renewal and expansion Project	900	6.3
Windsor	Multimedia Learning Centre	1,000	10.7
York	Schulich School of Business/Faculty of Education	2,054	30.5
Total		**33,361**	**453.5**

Joint Projects

Algonquin & Carleton	Joint Undergrad Degree in Information Technology	550	11.3
Fanshawe & Western	Communication, Information and Multimedia studies	155	4.3
George Brown & Ryerson	Centre for Studies in Community Health	1075	13.4
Georgian & York	Central Technology Enhanced Learning Building	1150	7.2
Humber & Guelph	Humber-Guelph Centre for Advanced Education & Training	2000	28.6
St Clair & Windsor	Integrated Engineering and Technology Learning Program	206	2.9
Seneca & York	Technology Enhanced Learning Building	4000	46.9
Sheridan & U of T	Facilities for Communication Culture & IT Program	1200	27.3
Sir Sandford Fleming & Trent	Cooperative Ventures Infrastructure	215	2.8
Total		**10551**	**144.9**

Source: Ontario Ministry of Training, Colleges and Universities

SECTION 5

ONTARIO'S POPULATION

Ontario's Population Projections
Age Structure
Regional Distribution
The Retirement Boom

January 19, 2001

ONTARIO'S POPULATION

The province's population of 11.5 million people is its most valuable resource. The province's economic and social well-being depends upon the ability to sustain and develop this resource.

This section will look at how the population of the province will change over the period 1999 to 2028 based on information provided by the Ontario Ministry of Finance in its July 2000 release of *Ontario Population Projections, 1999-2028.*

Ontario's Population Projections

The Ministry of Finance projects Ontario's population, which was 11.5 million in July 1999, will grow by 33.4% or 3.8 million, to almost 15.4 million by July 1, 2028. Using a medium growth scenario as the Figure 5.1 shows, this scenario combines a slightly increasing fertility rate, a moderate decline in mortality and a quasi-constant migration level.

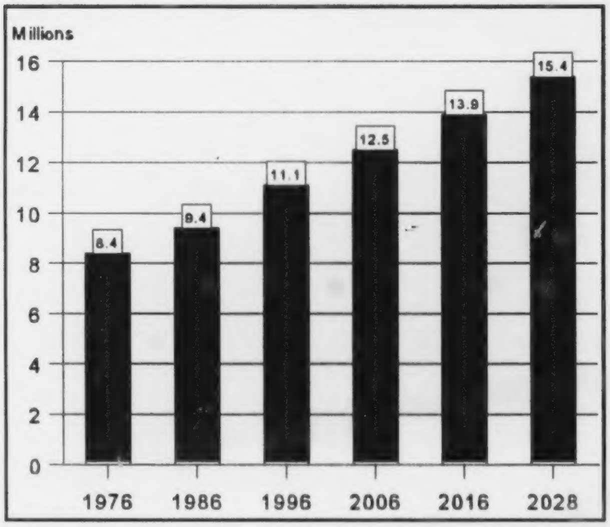


Figure 5.1 Ontario's Population Growth

During the first 10-year period, the annual rate of growth is projected to average 1.2% compared with 1.3% during the previous decade. By 2027-28, the annual rate of growth will slow to 0.7%.

As a percentage of Canada's total population, Ontario's share will increase from 36% in 1981 to 38% in 1999, to reach 42% by 2026.

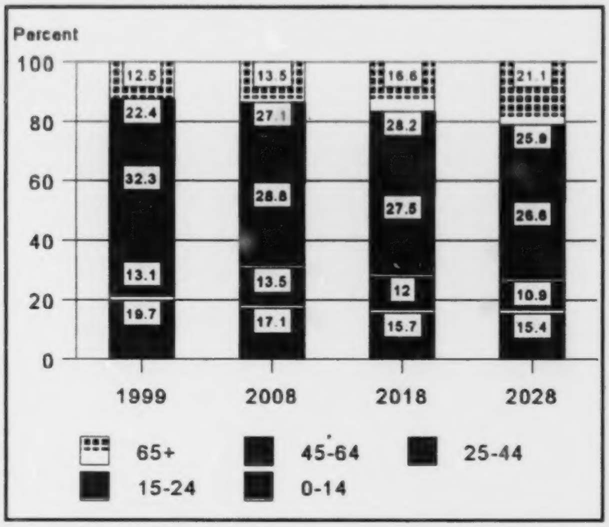
The annual birth rate is expected to be 150,000 in 2028, up from 131,000 In 1999. The aging baby boomer population will have an impact on the annual death rate in the coming decades, rising to 134,00 in 2028 from 83,000 in 2000.

Over the decade 1999-2009, net migration will add one million to the population of Ontario, accounting for 71% of total population increase. Over the full projection period, net migration will account for 75% of total population growth increase. As immigration is the most important component of migration, the racial diversity of the province can be expected to continue its increase.

Age Structure

The structure of Ontario's population will shift to a larger proportion of senior citizens. The median age of the population will rise to 43 years in 2028, up from 36 years in 1999. The median age for women will move from 37 to 44 years, and the median age for men, from 35 to 42 years.

Figure 5.2 Age Distribution, Ontario Population, Selected Years



The population of those aged 65 and over will more than double from 1.4 million or 12.5% of the population in 1999 to 3.2 million or 21.1 in 2028, according to projections. The population of those age 75 and over will more than double, increasing from 600,000 or 5.4% of the population to 1.4 million or 9.3%. The growth of seniors' share of the population will accelerate after 2011 as baby boomers begin to turn age 65. This same cohort will begin to reach age 75 a decade later, in 2021.

Source: Ontario Ministry of Finance. *Ontario Population Projections, 1999-2028.* July 2000.

The working age population, ages 15-64, will increase by 25%, from 7.8 million in 1999 to 9.7 million by 2028. Within this age group, the most rapid increase will be among those over age 45. The share of the population that is of working age will rise gradually from 67.7% in 1999 to peak at 69.6% in 2011, after which it will fall to 63.5% by 2028.

Currently there are 166 females per 100 males among those age 75 and over. By 2028, it is projected there will be 138 females per 100 males due to an assumed narrowing of the gap between male and female life expectancies.

The overall dependency ratio, the ratio of the 0-14 and 65+ age groups to the 15-64 age group is expected to remain low for the first 10 years. Currently, there are 48 "dependents" (ages 0-14 and 65+) for every 100 working individuals. By 2011, this dependency ratio is projected to decline to 44. With baby boomers reaching age 65 beginning in 2011, the dependency ratio will begin to climb, reaching 58 by 2028, a situation similar to the 1970s, when the baby boomers were at the younger end of the scale.

Ontario Population, Ages 15-24

The number of individuals aged15 to 24 in Ontario is expected to rise over the next decade, peaking in 2012- 2013. This will be followed by a decline until 2022, when it will begin to rise again. See Figure 5.3:

Figure 5.3 Ontario Population Aged 15-24 by Gender, Every Fifth Year

Age	Gender	1999	2001	2006	2011	2016	2021	2026	2028
15 to 19	Male	387.1	401.7	435.3	455.4	414.2	411.0	419.8	425.5
	Female	366.5	378.6	406.5	425.5	388.2	383.8	392.0	397.3
	Total	**753.6**	**780.2**	**841.8**	**880.8**	**802.4**	**794.9**	**811.8**	**822.8**
20 to 24	Male	383.0	392.0	423.5	423.5	477.0	436.1	433.0	435.5
	Female	369.7	377.9	407.4	435.0	454.1	416.8	412.5	414.8
	Total	**752.7**	**769.9**	**831.0**	**891.9**	**931.1**	**852.9**	**845.6**	**850.3**
	Total	**1,506.3**	**1,550.1**	**1,672.8**	**1,772.7**	**1,733.5**	**1,647.8**	**1,657.4**	**1673.1**

Source: Ontario Ministry of Finance. *Ontario Population Projections, 1999-2028.* July 2000,

Regional Distribution

All regions of Ontario will experience growth, with the Greater Toronto Area (GTA) growing the fastest from 5.1 million in 1999 to 7.5 million by 2028. If projections are correct, by 2028, the GTA area will accommodate almost one-half of the province's total population. The City of Toronto's population is projected to grow from 2.5 million to 2.95 million while the area outside Toronto (Durham, Halton, Peel and York) will add close to two million people. International migration into the GTA will form a very significant part of the projected increase.

The population of Central Ontario is projected to grow from 2.5 million to almost 3.4 million, with the region's share remaining unchanged at 22%. Strongest growth will be surrounding the GTA in the Simcoe, Dufferin, Wellington, Waterloo and Victoria census divisions.

The population in Eastern Ontario is projected to increase from 1.6 million to almost 1.9 million with above-average growth occurring in the Ottawa-Carleton and surrounding areas. Ottawa-Carleton is projected to grow from 764,000 to 955,000 by 2028.

The population of Southwestern Ontario is projected to grow from 1.5 million to about 1.75 million by 2028. Growth within the region will vary, with Elgin and Essex projected to grow at close to the provincial average.

Northern Ontario will grow from 839,000 in 1999 to 868,000 in 2028, with a variable growth rate across the area.

Figure 5.4 Ontario Regional Population Growth. 1999 and 2028

	1999	2028	Population Share 1999	Population Share 2028
East	1,548,700	1,872,800	13.5%	12.2%
Central	2,545,300	3,379,500	22.1%	22.0%
GTA	5,073,000	7,487,400	44.1%	48.8%
Northeast	587,800	603,500	5.1%	3.9%
Northwest	251,000	264,600	2.2%	1.7%
Southwest	1,508,000	1,747,200	13.5%	11.4%
All Regions	11,513,800	15,354,900	100.0%	100%

Source: Ontario Ministry of Finance. *Ontario Population Projections, 1999-2028.* July 2000

Notes:

East:	includes Ottawa-Carleton, Frontenac, Hastings, Lanark, Leeds and Grenville, Lennox and Addington, Prescott and Russell, Prince Edward, Renfrew, Stormont, Dundas and Glengarry.
Central:	includes Brant, Dufferin, Haldimand-Norfolk, Haliburton, Hamilton-Wentworth, Muskoka, Niagara, Northumberland, Peterborough, Simcoe, Victoria, Waterloo and Wellington.
GTA:	includes Durham, Halton, Peel, York and Toronto.
Northeast:	includes the districts of Algoma, Cochrane, Manitoulin, Nipissing, Parry Sound, Sudbury, Timiskaming and the Sudbury Regional Municipality.
Northwest:	includes Kenora, Rainy River and Thunder Bay.
Southwest:	includes Bruce, Elgin, Essex, Grey, Huron, Kent, Lambton, Middlesex, Oxford, Perth.

Electronic copies of the *Ontario Population Projections, 1999-2028* are available from the Ministry of Finance web site at http://www.gov.on.ca/FIN/hmpage.html or it can be ordered from Publications Ontario Bookstore. The projections include population by five-year age group, each year, 2000-2028 by census division, i.e., Algoma, Peterborough, Halton or Frontenac etc.

The Retirement Boom

Baby boomers retiring in unprecedented numbers in the next 20 years will reduce the workforce dramatically and may precipitate a labour shortage. The number of Canadians retiring will rise from current levels of approximately 225,000 per year to 265,000 over the next five years. The numbers will then jump to 320,000 per year from 2005 on and will keep growing until it reaches 425,000 per year between 2020 and 2029 as the bulk of the baby boomers retire.[1] Early retirements in some areas where physical demands are high, such as nursing and construction, and may precipitate shortages much earlier than 2011 when baby boomers begin to reach retirement age.

The need for qualified replacement workers, particularly if economic growth continues to be strong, will be high and place further demands on the post-secondary system. Employment opportunities for college graduates in fields with high retirement rates should be strong. The Ontario Ministry of Training, Colleges and Universities has projected retirements by occupation for the province from 1996-2010. Over the forecast period, farmers and farm managers in Ontario are projected to have the highest retirement rates at 58.4%. It is projected that more than half of the 55,625 employed workers in these occupations will retire by the year 2010. Tailors, dressmakers, furriers and milliners are next with 57% retirement by 2010.

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[1] Urban Futures Institute. *Help Wanted*, as reported in the Toronto Star, August 5, 1999.

Occupations with projected above-average retirement rates will be those in the managerial, professional and technical categories, all of which require post-secondary education and training.

Appendix 5.1 shows a list of selected occupations arranged by highest cumulative retirements rates in 2010 and how the retirement rates change over the projection period.

Bibliography

Ontario Ministry of Finance. *Ontario Population Projections, 1999-2028.* Queen's Printer, Toronto, 2000.

Appendix 5.1

SELECTED OCCUPATION WITH HIGHEST RETIREMENT RATES TO YEAR 2010, ONTARIO

OCCUPATIONS (1990 National Occupational Classification)	1996 Employment	Cumulative Retirement Rates		
		2000	2005	2010
Farmers and Farm managers	55,625	-31.12	-46.73	-58.37
Tailors, dressmakers, furriers and milliners	5,390	-19.58	-39.77	-57.02
School principals and administrators, elementary and secondary education	10,170	-10.93	-31.12	-55.87
Real Estate agents and salespersons	27,370	-16.75	-33.53	-49.90
University professors	16,345	-14.67	-32.86	-49.57
Senior managers - goods production, utilities, transportation and construction	16,655	-16.01	-32.45	-48.95
Head Nurses and supervisors	4,150	-12.72	-30.63	-48.88
Senior managers - health, education, social and community services, and membership organizations	4,235	-12.62	-29.95	-48.82
Administrators in post-secondary, education and vocational training	2,865	-10.94	-27.77	-46.33
Property administrators	10,745	-17.75	-32.29	-45.75
Librarians	5.015	-11.71	-27.60	-45.08
Senior managers - financial, communications carriers and other business services	13,590	-13.74	-28.00	-43.77
Special physicians	8,195	-15.77	-28.96	-41.76
General practitioners and family physicians	14,180	-15.88	-28.72	-41.53
Bookkeepers	38,900	-14.52	-28.00	-41.28
Secondary school teachers	58,405	-8.52	-23.18	-40.88
Midwives and practitioners of natural healing	1,025	-11.60	-24.68	-40.21
Psychologists	3,680	-10.57	-24.29	-40.08
Agricultural and fish products inspectors	1,205	-10.08	-23.76	-39.55
Elementary school and kindergarten teachers	91,795	-7.91	-21.93	-39.21
School and guidance counsellors	3,355	-7.85	-21.70	-38.65

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Secretaries (except legal and medical)	96,770	-10.59	-25.05	-38.47
Upholsterers	2,620	-11.21	-24.61	-38.25
College and other vocational instructors	30,280	-9.37	-22.64	-37.69
Registered nurses	81,695	-8.83	-22.16	-37.39
Aircraft instrument, electrical and avionics mechanics, technicians, and inspectors	1,510	-9.58	-23.30	-37.09
Crane operators	4,805	-8.58	-22.10	-37.03
Manufacturing managers	29,190	-9.16	-21.81	-36.54
Dentists	6,545	-10.63	-22.57	-36.37
Registered nursing assistants	12,040	-8.18	-20.84	-36.08
Engineering, science and architecture managers	9,840	-8.69	-20.99	-35.86
Insurance agents and brokers	21,110	-10.37	-20.99	-35.86
Architects	3,275	-10.53	-21.90	-35.25
Assessors, valuators and appraisers	3,345	-8.69	-20.34	-34.97
Inspectors and testers, mineral and metal processing	2,365	-8.26	-20.39	-34.50
Elevator constructors and mechanics	1,350	-9.26	-22.06	-33.80
Specialists in human resources	10,700	-7.00	-18.57	-33.79
Stationary engineers and auxiliary equipment operators	5,045	-8.85	-20.53	-33.68
Electric appliance servicers and repairers	2,995	-9.12	-20.67	-33.43
Electrical mechanics	2,575	-7.77	-19.56	-32.76
Payroll clerks	12,750	-7.68	-18.46	-32.63
Construction millwrights and industrial mechanics	26,990	-7.05	-18.46	-32.32
Air pilots, flight engineers and flying instructors	3,435	-7-29	-18.55	-31.99
Inspectors in public and environmental health and occupational health and safety	4,000	-5.99	-17.14	-31.96
Jewellers, watch repairers and related occupations	1,925	-10.68	-20.81	-31.82
Civil engineers	11,195	-8.73	-19.61	-31.82
Survey interviewers and related clerks	8,340	-10.80	-21.46	-31.50

Bricklayers	5,725	-7.83	-19.19	-31.35
Accounting and related clerks	92,995	-8.57	-19.20	-31.34
Steamfitters, pipefitters, and sprinkler system installers	5,290	-6.51	-17.51	-31.22
Aerospace engineers	1,710	-7.45	-18.92	-30.64
Structural metal and platework fabricators and fitters	13,030	-7.24	-18.08	-30.40
Heavy equipment operators (except crane)	7,305	-9.02	18.44	-30.07

Source: Ontario Ministry of Training, Colleges and Universities, Training Division.

SECTION 6

PUBLIC POLICY

2000 Ontario Budget
2000 Federal Budget
Ontario Education Policy Directions 1999-2000

PUBLIC POLICY

Public policy establishes the overall direction and focus for the college system and governments are only one of the many partners with whom colleges must form successful partnerships. One of the ongoing challenges for the colleges is delivering accurate and timely information to the government to provide a strong foundation for policy decision-making. This section will highlight the policy directions announced by both the federal and provincial governments in the last year, as well as look at trends in other jurisdictions. The chapter will list the materials that colleges have shared with the government this year and outline future policy work that will impact on the college system over the next year or so.

2000 ONTARIO BUDGET

In May 2000, the Minister of Finance announced a number of initiatives in support of post-secondary education in the province, including:

- **Ontario Innovation Trust**, announced at $250 million in 1999, was tripled with an additional endowment of $500 million to provide matching funding to Ontario's colleges, universities, hospitals and research institutes for labs, high-tech equipment and other research infrastructure.

- The **Ontario Research and Development Challenge Fund** was doubled to $100 million.

- An investment through **SuperBuild** of more than $1 billion, combined with our partner's contribution, which will result in a total of $1.8 billion invested and more than 73,000 new student spaces projected in Ontario's colleges and universities. See Section 4 for further information on how this funding was allocated.

- **Improvements to help young people gain access** to student loans for colleges, universities and vocational schools, by increasing the study-period employment and scholarship exemptions under the Ontario Student Assistance Program (OSAP).

- Funding was doubled for the **Ontario Work-Study Program**, which will enable universities and colleges to hire twice as many needy students.

- The number of **Ontario Graduate Scholarships** was increased by more than 50% and the value of each scholarship was increased to $15,000.

- $30 million annually for a new **Ontario Research Performance Fund** to support research overhead costs from Ontario-sponsored research at colleges, universities and research institutes. The annual funding for the **Premier's Research Excellence Awards** was doubled to $10 million for the remaining seven years of the program.

- A new **Educational Technology Tax Incentive** for donations of equipment and technology to colleges and universities was established.

- **Retail Sales Tax is eliminated** on all donations to educational institutions.

Several training programs and skills development initiatives were announced, including:

- $15 million over three years for new **Apprenticeship Innovation Fund** to modernize classroom training for existing programs and introduce opportunities for new trades;
- $5 million for **TVO to develop workplace training** in partnership with the private sector;
- $5 million over five years for community and school-based programs to raise **youth's awareness of science and technology**
- $2 million over three years to undertake **training for women in the information technology sector;**
- $2 million to expand the successful **Women in Skilled Trades** program for pre-apprenticeship in the auto parts sector; and
- $1.4 million to expand the successful **Ontario Youth Apprenticeship Program** to all school boards offering secondary education.

Investments at the elementary/secondary level included:

- an additional $6 million to extend the **Pre-school Speech and Language Program** to five-year-olds;
- $2 million more annually for **nutrition programs** in schools;
- $70 million annually in new **special education funding,** to allow for early interventions, to expand programs for students with speech and language disorders and learning disabilities;
- $4 million in training funding, so qualified assessors can test and identify young **Francophone students with learning disabilities;**
- a $30 million **Early Years Challenge Fund;**
- $70 million annually to **improve the reading skills** of students from Junior Kindergarten to Grade 3;
- $101 million annually to **reduce average class sizes** from Junior Kindergarten to Grade 3;
- Extending funding for the **medical requirements of special needs students** to include students in all denominational schools;
- $5 million annually to implement a prevention and intervention program in schools to help teachers identify when **children,** especially in the primary years, may be **at risk of neglect or physical or emotional harm;** and
- Raising awareness of the needs of Early Childhood Years by supporting **TVO in developing good parenting resources.**

2000 Federal Budget

The federal budget, of February 28, 2000, included the following elements related to post-secondary education.

- The Canada Health and Social Transfer (CHST) fund, which provides funding for post-secondary education, health care and other social programs, will reach $15.5 billion in 2000-01, up almost 25% since 1998-99. The CHST transfers will reach an all-time high of almost $31 billion in 2000-01.
- The Canadian Opportunities Strategy introduced in 1998, and expanded in the 1999 budget, was enhanced again. Among the several additional investments, was a further $900 million for the Canada Foundation for Innovation and an increase in the tax exemption for income from scholarships, fellowships and bursaries to $3,000 from $500 and $900 million to establish and sustain 2,000 Canada Research Chairs across the country.
- A plan to improve provincial and municipal infrastructure by $450 million in the first two years and $550 million in the next four years will be developed by working with other levels of government and the private sector.
- $80 million will be provided in 2000-01 and 2001-02 to offer federal government services online and stimulate the use of electronic commerce.

Ontario Education Policy Directions 1999-2000

Academic Credential Assessment Service

- The government has contracted with World Education Services to provide employers, occupational regulatory bodies, academic institutions, private trainers and personnel agencies with high quality assessments of foreign secondary and post-secondary educational credentials against Ontario standards. Use of the service will be voluntary. An office will be opened this fall.

Aiming For the Top Tuition Scholarships

- Announced in April 2000, tuition scholarships will be available for students entering post-secondary education this fall to recognize students who have worked hard during high school and achieved academic excellence.
- Winners may receive a tuition scholarship worth up to a maximum of $3,500 per year, depending in their financial need and the amount of tuition.
- Students who maintain an 80% average can receive the award for up to four years.
- When fully implemented in 2003, the annual investment will be $35 million in scholarships for more than 10,000 students each year.
- Applications are aligned with the OSAP application process.

Apprenticeship

- The new *Apprenticeship and Certification Act, 1998* was proclaimed on January 1, 2000. This is the first major overhaul of the apprenticeship system in 30 years in Ontario.
- The legislation and its regulations eliminate red tape, by collapsing 24 regulations into

three, and provide a more streamlined framework for apprenticeship training. It will attract new employers and emerging trades into the program.

- At the request of the construction industry, the *Trades Qualification and Apprenticeship Act* will continue for skilled trades in construction. Thus a specific trade within an industry can choose to be regulated by the new legislation.
- A commitment to double the number of apprentices will see the number of new apprentices increase to 22,000 in Ontario.

Baccalaureate Degree Requirement for Nurses

(Starting January 1, 2005)

- Starting in January 1, 2005, all new Ontario nurses will need a four-year baccalaureate degree in nursing (BScN) to ensure that nurses are able to deliver complex new therapies and treatments, new technology, and work in more independent, community-based practice.
- Government will invest $22.6 million in the new collaborative college-university nursing program which will ensure capacity for 2,000 students. The first students are expected to enrol in September 2001.

Expanded Access to Degrees

- The establishment of private, degree-granting institutions in Ontario was announced in April 2000, including for-profit and not-for-profit institutions. New private degree-granting institutions will not be eligible for government capital or operating grants.
- Ontario's colleges of applied arts and technology will be allowed to offer applied degrees.
- A Quality Assessment Board to advise the Minister on whether proposals for new degree programs offer an appropriate degree-level education will be established in fall of 2000.
- The Quality Assessment Board will recommend approval of up to eight new pilot projects per year for three years for colleges to deliver applied degrees. Each project will normally consist of one college offering one program in a field where the college demonstrates academic excellence and does not duplicate programs normally offered at universities in Ontario. The success of the pilot projects will be evaluated at the end of three years.

Funding

- Funding in post-secondary education continues.
- In 2000-01, $68 million was added in base operating funds to colleges and universities to help them accommodate more students and to improve the quality of programs. Performance based funding was implemented for 2000-01 as outlined in Section 4.
- Through SuperBuild, the government has invested $1 billion in capital funding to expand and renew Ontario's colleges and universities. When combined with the contributions of partners, approximately $8 billion will be available to create 73,000 new student spaces.

Ontario Knowledge Network for Learning

- The government wishes to engage all stakeholders in planning and implementing strategies to enhance the province's capacity to use information communications technologies (ICT) in learning. To initiate this process, a symposium was held in June 2000. As the next step, a consultation will be carried out later this year to gather specific ideas and input on a vision and goals for ICT in learning. Further information can be accessed through e-mail at oknl.symposium@edu.gov.on.ca.

Student Assistance

- Canada Millennium Scholarship Foundation Bursaries were available for the first time this year to full time post-secondary students in financial need, who had completed at least 60% of a year of full-time studies. Cash grants of $3,000 are paid to the student within the Ontario Student Assistance Program. The annual foundation investment in Ontario is $106.3 million. The foundation web site is *http://www.millenniumscholarships.ca.*
- More than 12,000 Ontario students received General Awards this year.
- Every Ontario student who receives a Canada Millennium Scholarship and studies for two terms will be asked to repay $6,500 instead of $7000, which is the usual maximum repayment under the Ontario Student Assistance Program. Students in receipt of this award will see a direct benefit of $500 per year.
- The study-period employment and scholarship exemptions under the Ontario Student Assistance Program (OSAP) were increased as mentioned previously in the 2000 Budget.
- Starting in 2000, Ontario and the federal government will exempt from tax the first $3,000 of scholarship income each year.

Tuition fees

- Beginning in 2000-01 academic year, colleges and universities are allowed to raise tuition fees for most programs by a maximum of 2% per year for 5 years. The five-year policy was to enable students and parents to plan better. For colleges, this means an increase of approximately $34 per year compared to $77 per year for university undergraduate arts programs.
- Institutions are to continue to set aside 30% of the annual increase in tuition fee revenues for students.
- The remaining 70% is to be invested to improve the quality of student programs. Colleges and universities are required to report to their communities on the use of additional tuition fee revenues through annual quality improvement programs.

Elementary/Secondary

- In 1999, the first students entered Grade 9 with the new high school curriculum emphasizing math, science and language, building on the new rigorous curriculum for Grades 1-8.
- *Passport to Prosperity* initiative is an employer-to-employer recruitment effort to provide

opportunities for students to explore careers and develop workplace skills and experience. It was designed by the Provincial Partnership Council and is supported by the Ontario Learning Partnership.

- A province-wide Code of Conduct was released in April 2000 to make schools safer and create a more respectful environment in schools. The code provides clear, consistent, province-wide standards of behavior and identifies situations where mandatory suspensions or expulsion will be necessary. As part of the implementation, students who are suspended and expelled will continue their education through various strict discipline and supervision programs. Wherever the majority of parents agree, a school will have a dress code or uniform policy.
- The definition of instructional time for secondary schools was clarified.
- A Teacher Testing Program was announced in May 2000 that requires teachers to re-certify every five years by successfully completing a number of required courses, including written tests and assessments. New, consistent, province-wide standards for teacher evaluation will be established. New teachers will be required to pass a test before they can qualify to teach in Ontario. An induction program where all new teachers can get coaching and support from more experienced teachers will be developed.
- Accountability of school boards was strengthened through the *Education Accountability Act, 2000* whereby the minister can investigate school boards that are alleged to be operating outside of provincial standards or laws in a number of identified areas and can order them to comply should circumstances warrant.

College Input to Government

The college system continues to work with the government on a number of initiatives. Input to government has been provided in several papers that are available on the ACAATO web site at http://www.acaato.on.ca.

Investing in Ontario's Economic Development: Opportunities and Issues for Increasing Capacity in Colleges. April 1999.

Ontario's Colleges for the 21st Century: Capacity and Charter Framework. May 2000.

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SECTION 7

HUMAN RESOURCES

College Staffing
Retirement Challenges in the Colleges
Trends

HUMAN RESOURCES

College staff are key to college success. As a large number of current college staff reach retirement age, colleges will need to find qualified and dedicated staff to replace them. This may prove to be difficult given the competition for employees which is likely to occur in the next decade.

This section will look at the current staffing in Ontario's colleges, how staffing has changed over time, retirement projections for college staff and general trends in human resource management.

COLLEGE STAFFING

College academic staffing levels rose slightly in 1999-2000 to 6,354 full-time employees, up from 6,288 in 1998-99. This breaks down as 6,095 professors, 211 counsellors, 32 librarians and 16 instructors. The most significant change from 1998-99 was the addition of 63 professors.

The number of full-time support staff members was up, as well, in 1999-2000, to 5,570 people as compared with 5,452 in 1998-99. Administrative staff ranks also increased, rising from 1,467 in 1998-99 to 1,511 in 1999-2000.

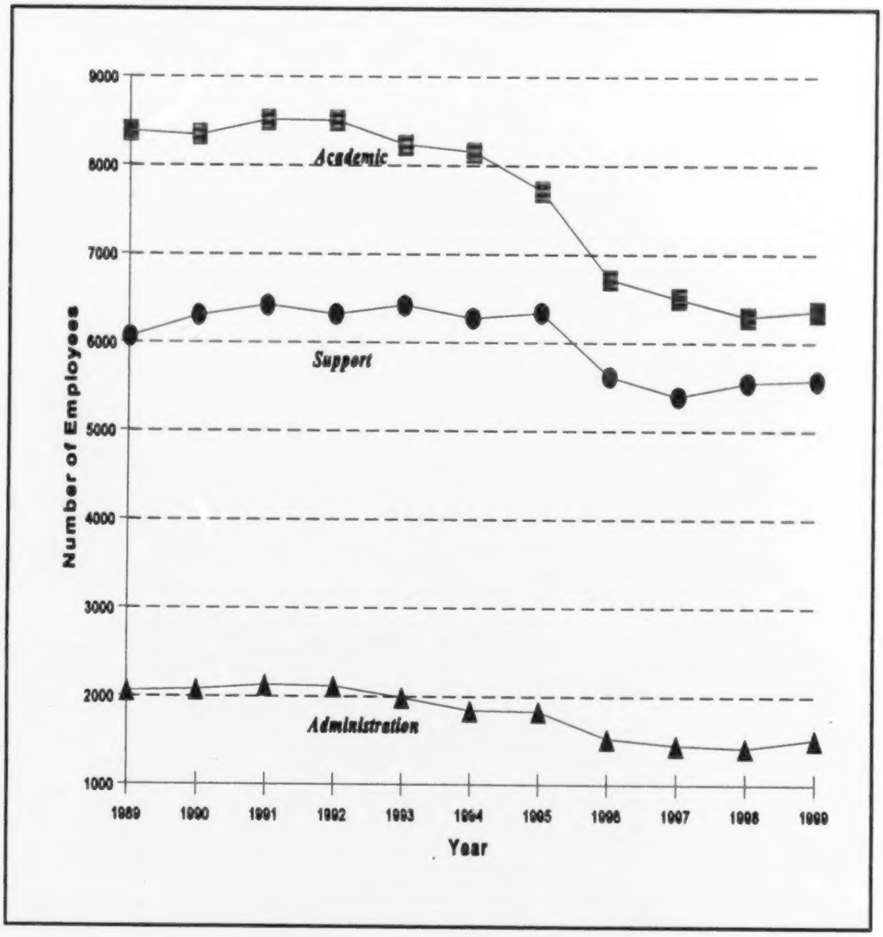
Figures 7.1 and 7.2 show gender breakdown of full time staff, as well as the historical changes in numbers of staff.

Figure 7.1 College Staff by Type and Gender, 1999-00.

Full-time Staff	**Male**	**Female**	**Total**
Academic	3,625	2,712	6,337
Support	1,719	3,851	5,570
Administration	643	868	1,511
Total	**5,987**	**7,431**	**13,418**
Part-time Staff:	**Male**	**Female**	**Total**
Academic	4,500	3,845	8,345
Support	2,089	3,969	6,058
Total	**6,589**	**7,814**	**14,403**

Source: Ontario Council of Regents for Colleges of Applied Arts and Technology Statistics, July 2000

Figure 7.2 Full-time staff in Ontario Colleges 1989-1999



Source: Ontario Council of Regents for Colleges of Applied Arts and Technology Statistics, July 2000

RETIREMENTS IN COLLEGES

The next 10 years will present colleges with many challenges in human resource planning as the number of retirements increases while student enrolment also increases at the same time. There is a peak in enrolment in 2004-2006 as the number of the secondary school graduates increases significantly as a result of the regulatory changes affecting secondary schools - the double cohort.

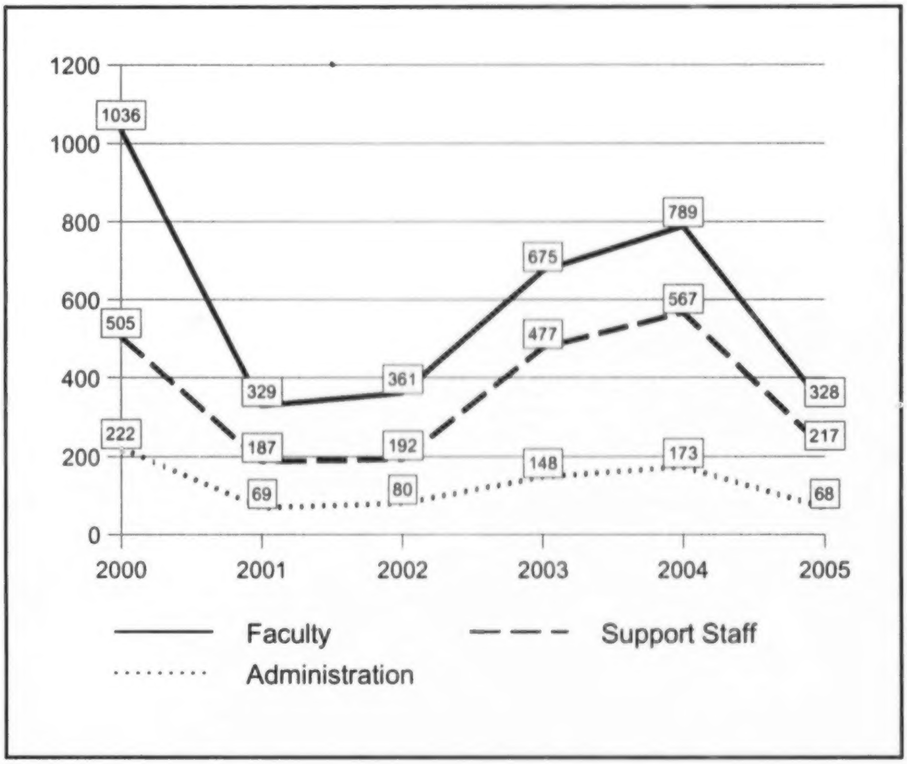


Figure 7.3
College Human Resource Requirements – Required hirings due to retiremen and enrolment increases

The numbers on the chart include:

- replacement of all college employees who are eligible to retire with full pension in a stated year; and
- staff increases necessitated by projected enrolment increases (as presented in Section 3) to maintain 1999 student to staff ratios.

A high number of retirements and required new hirings begins in 2000-01 (November 1, 2000), with a decrease the following year. The number of hirings will begin to increase again in 2002 with a peak in 2004. Between 2000 and 2005, approximately 3,390 or 27% of current staff will be eligible to retire. Approximately 3,000 additional employees will be a required due to increased enrolment. Approximately 6,423 people will need to be hired: 3,518 academic faculty, 2,125 support staff and 760 administrative staff.

Total staffing in the system by 2005 is projected to rise to 17,948 with about 35% of staff new to the system since 2000. Finding the right people at the right cost will be a challenge.

At about the same time, a high number of retirements at universities and in elementary and secondary schools will also occur.

TRENDS

Gender and Self-employment in Canada

- Self-employment in Canada has expanded significantly, growing from 12.3% of total employment in 1976 to 17.8% in 1997. In 1997, 21.1% of men were self-employed compared with 13.9% of women. Women in 1997 comprised 40% of own account workers (workers who work alone) and accounted for 25% of employers (those who have paid employees). The majority of men and women are in their own account work – 75% of self-employed women and 59% of men. Self-employed women are more likely to work part-time than men. Salaries are more polarized than for paid workers and employers generally earn more than own account workers. In 1995, over 55.7% of own account workers made less than $20,000 (compared to 31.4% of employers) and 8.6% of employers made over $80,000 (compared to just 2.2% of own account workers). Women's salaries tend to be about two-thirds of men's salaries on average.
- In addition to lower salaries, many self-employed workers lack important benefits available to paid workers such as disability coverage, parental benefits/leave, pension plans and Employment Insurance.
- Barriers to training and education may also exist for self-employed workers, due to limited access to financing and an inability to absorb the costs of downtime associated with training.[1]

Work Access to the Internet

- An Angus Reid Group survey released in July 2000 indicated that an estimated 34% of Canadian adults have Internet access at work, up from an estimated 29% last year. Internet users spend an average of eight hours per week online with 78% saying they use the Internet for personal reasons at least 26% of that time. Business-related Internet usage comprises about 16% of an average Canadian's work week.

- E-mailing is the most prominent business-related use of the Internet at 93%, conducting research about their industry (84%), company-related purchases (45%), business-related transactions online (26%) and business-related online banking (13%).

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[1] Hughes, Karen D. *Gender and Self-Employment in Canada: Assessing Trends and Policy Implications* Canadian Policy Research Networks. Ottawa, 1999.

- Personal use of the computer includes e-mail, information updates, comparison shopping and financial transactions.

- Only 33% say their company has an Internet usage policy but 64% feel their employer has the right to monitor employee activity. See http://www.angusreid.com/media/content /.

- Statistics Canada reports that 59% of public sector employees had access to the Internet at work, compared with 28% in the private sector in 1999. In the public sector, educational institutions had a 90% Internet access rate for employees compared to 82% in federal and provincial governments. In the private sector, 74% of workers in information and cultural industries had Internet access, followed by private educational services (66%), and professional, scientific and technical services with 60%. At the other end, retail trade employees had a 13% access rate and accommodation and food services, 7%.[2]

- The average number of daily e-mail messages has increased to 33% - up 7% from last year.

- Canadian workers are also becoming more adept at screening out extraneous mail and using the "do not disturb" features on their phone and e-mail systems. Twenty-one percent of surveyed Canadian workers reported feeling overwhelmed by the volume of messages they received, down from 28% in 1998 and 1999.

Career Development and Work-Life Balance

Career development and work-life balance is an increasingly important factor in employment. This tendency will continue as employment opportunities increase and possible shortages develop.

- Towers Perrin found in a recent study of 15 countries, titled *"Meeting the Global Rewards Challenge,"* that today's workers have higher expectations of their workplace. In addition to paycheques, they seek things like challenging work and stimulating work climate, the ability to master new skills, and the promise of advancement.

- High-performing companies provide a consistent and meaningful level of differentiation in pay for their top-performing employees, they make performance management a centrepiece of their reward efforts, they act on the fact that today's employees want very different kinds of things from their employers than prior generations, and they communicate more often and more openly about the pay and rewards available for strong individual contribution. See http://www.towers.com/tower/news/pr000522b.html

- Linda Duxbury and Lorraine Dyke from Carleton University and Natalie Lam from University of Ottawa co-authored a study called *Career Development in the Canadian High Technology Sector.* They report that high turnover in the technology sector is simply not a matter of more money.[3] Most high-tech workers would be willing to stay put with more challenging work assignments, better opportunities for advancement, employer-funded training and reduced workloads.

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[2] Today's News from http://www.workplace.ca/article/thursday.html on Thursday, August 17, 2000.

- This issue was also discussed by the Advisory Council on Science and Technology in *Stepping Up: Skills and Opportunities in the Knowledge Economy.*

Decentralized work locations

Telework, telecommuting and other kinds of virtual work entailing work away from a central workplace for all or part of the workweek are increasing and, with rapidly advancing technology, are likely to become even more prevalent. In Canada, the number of persons working from home ranges from 4% to 11% depending on the definition of homework or telework.[4]

Canada's Biggest Job Site

Workopolis.com opened with more than 15,000 job postings and 160,000 resumes. The service is operated by *The Globe and Mail* and *The Toronto Star*. In July 2000, Workopolis advertised 30,000 job postings.

Maternity/Parental Leave to Double

Beginning in 2001, available federal maternity and parental leave benefits will double from six months to one year.

The issue of leave for palliative care reasons (to care for dying loved ones) is anticipated to receive further discussion this fall as a Senate subcommittee brings forth recommendations in this regard.[5]

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[3] *Canadian HR Reporter*. March 13, 2000

[4] Lowe, Graham, et all. *Rethinking Employment Relationships*. CPRN Discussion Paper No. W/05. Canadian Policy Research Networks, Ottawa, 1999.

[5] *Canadian HR Reporter*. July 17, 2000.

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Webography

The following selected web sites provide research information and, in many instances, excellent links to additional resources. Many of them have been used for research for the scan. Additional web sites have been identified throughout the document in association with a particular item of information, so readers can access further information. If you have additional web sites that you would recommend, please use the enclosed feedback form to enlarge our resource list.

Economy and Labour Force

Angus Reid Group

- Many of the Angus Reid Group's recent market research reports are available.
  http://www.angusreid.com

Bank of Montreal

- Analysis of economic issues, provincial and federal budgets is provided by the Economics Department.
  http://www.bmo.com/economic/

Conference Board of Canada

- Provides information about organizational strategies and practices, emerging economic and social trends, and key public policies. Strong educational focus.
  http://www.conferenceboard.ca

Industry Canada

- Provides monthly information on Canadian and provincial economies as well as other economic issues. Also links to other government departments and U.S. Census Bureau.
  http://strategis.ic.gc.ca

Ontario Ministry of Finance

- Provides information on Ontario economy and population along with budget papers.
  http://www.gov.on.ca/FIN/

Ontario Ministry of Economic Development and Trade

- Information on economic activity of various sectors in Ontario including monthly report.
  http://www.ontario.canada.com

Statistics Canada

- An invaluable resource for Canadian and provincial statistics, education resources, research papers and labour force survey information.
  http://www.statcan.ca

Human Resources and Development Canada

- Information on the labour market at federal and provincial levels, career counselling, and the changing nature of work.
  http://www.hrdc-drhc.gc.ca/common/home.shtml

Education and Training

American Society of Training and Development

- Provides research information related to workplace training and development and current trends.
  http://www.astd.org

American Association of Community Colleges

- Good general resource on community college education.
  http://www.aacc.nche.edu

Canadian Policy Research Networks Inc.

- Many research papers relating to social and economic issues, specifically training.
  http://cprn.edu

Information Technology Association of Canada

- ITAC provides research and position papers on various issues relating to information technology sector including need for workers in this field.
  http://www.itac.ca

League for Innovation in the Community College

- A variety of information on college level education.
  http://www.league.org/welcome.htm

Office of Learning Technologies

- Information available on funding and publications regarding learning opportunities through technologies. Links to Canadian sites and electronic journals.
  http://olt-bta.hrdc-drhc.gc.ca

Society for Advancement of Excellence in Education

- Strong elementary-secondary education focus. Links to a number of other education resources.
  http://www.saee.bc.ca

TeleEducation New Brunswick's Telecampus

- An extensive database of online courses
  http://telecampus.edu

Learners

Career Gateway

- Provincial web site that provides career counselling and job search information.
  http://www.edu.gov.on.ca/eng/career/labmark.html

Work/Jobs

- Federal government web site for job listings, career couselling and workplace information
  http://www.hrdc-drhc.gc.ca/common/work.shtml

Workopolis

- Jointly sponsored by The Globe and Mail and The Toronto Star providing job listings and career information including the option of developing individual web sites to advertise skills.
  http://www.workopolis.com

Workwaves

- Local Toronto-focused web site coordinated by local centre through funding from HRDC which lists jobs in Toronto as well as providing career information.
  http://www.com

Human Resources

HR-Guide.Com

- An exhaustive list of resources and information on practically every HR aspect.
  http://www.hr-guide.com

Workplace.ca

- Commercial site providing a variety of information related to human resources and the workplace.
  http://www.workplace.ca

Watson Wyatt

- A global human resources consulting firm which has interesting research in this field.
  http://www.watsonwyatt.com

General

Association for International Research

- Lists Internet resources for institutional research, publications and strategic initiatives.
  http://www.airweb.org

The Canadian Institutional Research and Planning Association

- Contains many links to those involved in institutional research and planning.
  http://www.usask.ca/cirpa

The Institute for Higher Education Policy

- Provides information and research on higher education primarily in the U.S.
  http://www.ihep.com

The Society for College and University Planning

- Links to plans from other institutions, pertinent online periodicals and books, conferences and recent reports.
  http://www.scup.org

The 2001 Environmental Scan for the Colleges of Applied Arts and Technology of Ontario

Feedback Form

The 2001 Environmental Scan has been revised to incorporate a number of suggestions that were received last year. We continue to need your feedback to ensure that the document meets the needs of the college system. Please forward your thoughts and comments to Pam Derks, Director, Research and Policy at:

The Association of Colleges of Applied Arts and Technology
655 Bay Street, Suite 1010
Toronto, Ontario
M5G 2K4

e-mail: derks@acaato.on.ca•phone (416) 596-0744, extension 230• fax; (416) 596-2364

1. How have you used the scan in your own work?

2. What did you find to be the most useful components of the scan?

3. What additional information or format change would have been helpful to you?

4. Other Comments:

Name:______________________________

College/Organization:__________________________________

Department:______________________________ Telephone:__________________________